Jeff Neal

List of Publications by Citations

102 papers	5,252 citations	40 h-index	71 g-index
135 ext. papers	6,363 ext. citations	5.7 avg, IF	5.88 L-index

#	Paper	IF	Citations
102	A high-accuracy map of global terrain elevations. *Geophysical Research Letters*, **2017**, 44, 5844-5853	4.9	425
101	Comparative flood damage model assessment: towards a European approach. *Natural Hazards and Earth System Sciences*, **2012**, 12, 3733-3752	3.9	264
100	A subgrid channel model for simulating river hydraulics and floodplain inundation over large and data sparse areas. *Water Resources Research*, **2012**, 48,	5.4	261
99	A high-resolution global flood hazard model. *Water Resources Research*, **2015**, 51, 7358-7381	5.4	256
98	Flood Detection in Urban Areas Using TerraSAR-X. *IEEE Transactions on Geoscience and Remote Sensing*, **2010**, 48, 882-894	8.1	173
97	Advances in pan-European flood hazard mapping. *Hydrological Processes*, **2014**, 28, 4067-4077	3.3	144
96	How much physical complexity is needed to model flood inundation?. *Hydrological Processes*, **2012**, 26, 2264-2282	3.3	140
95	Near Real-Time Flood Detection in Urban and Rural Areas Using High-Resolution Synthetic Aperture Radar Images. *IEEE Transactions on Geoscience and Remote Sensing*, **2012**, 50, 3041-3052	8.1	135
94	Integrating the LISFLOOD-FP 2D hydrodynamic model with the CAESAR model: implications for modelling landscape evolution. *Earth Surface Processes and Landforms*, **2013**, 38, 1897-1906	3.7	132
93	An intercomparison of remote sensing river discharge estimation algorithms from measurements of river height, width, and slope. *Water Resources Research*, **2016**, 52, 4527-4549	5.4	131
92	Benchmarking urban flood models of varying complexity and scale using high resolution terrestrial LiDAR data. *Physics and Chemistry of the Earth*, **2011**, 36, 281-291	3	129
91	Distributed whole city water level measurements from the Carlisle 2005 urban flood event and comparison with hydraulic model simulations. *Journal of Hydrology*, **2009**, 368, 42-55	6	126
90	A first large-scale flood inundation forecasting model. *Water Resources Research*, **2013**, 49, 6248-6257	5.4	121
89	A data assimilation approach to discharge estimation from space. *Hydrological Processes*, **2009**, 23, 3641-3649	3.3	116
88	Estimating reach-averaged discharge for the River Severn from measurements of river water surface elevation and slope. *Journal of Hydrology*, **2014**, 511, 92-104	6	110
87	The accuracy of sequential aerial photography and SAR data for observing urban flood dynamics, a case study of the UK summer 2007 floods. *Remote Sensing of Environment*, **2011**, 115, 2536-2546	13.2	103
86	The credibility challenge for global fluvial flood risk analysis. *Environmental Research Letters*, **2016**, 11, 094014	6.2	96

85	Probabilistic flood risk mapping including spatial dependence. *Hydrological Processes*, **2013**, 27, 1349-1363	3.3	92
84	A comparison of three parallelisation methods for 2D flood inundation models. *Environmental Modelling and Software*, **2010**, 25, 398-411	5.2	92
83	Evaluating a new LISFLOOD-FP formulation with data from the summer 2007 floods in Tewkesbury, UK. *Journal of Flood Risk Management*, **2011**, 4, 88-95	3.1	88
82	A storm surge inundation model of the northern Bay of Bengal using publicly available data. *Quarterly Journal of the Royal Meteorological Society*, **2013**, 139, 358-369	6.4	87
81	Scheduling satellite-based SAR acquisition for sequential assimilation of water level observations into flood modelling. *Journal of Hydrology*, **2013**, 495, 252-266	6	86
80	Parallelisation of storage cell flood models using OpenMP. *Environmental Modelling and Software*, **2009**, 24, 872-877	5.2	83
79	Satellite-supported flood forecasting in river networks: A real case study. *Journal of Hydrology*, **2015**, 523, 706-724	6	73
78	Automatic near real-time selection of flood water levels from high resolution Synthetic Aperture Radar images for assimilation into hydraulic models: A case study. *Remote Sensing of Environment*, **2012**, 124, 705-716	13.2	73
77	Flood inundation model updating using an ensemble Kalman filter and spatially distributed measurements. *Journal of Hydrology*, **2007**, 336, 401-415	6	70
76	Technology: Fight floods on a global scale. *Nature*, **2014**, 507, 169	50.4	67
75	When does spatial resolution become spurious in probabilistic flood inundation predictions?. *Hydrological Processes*, **2016**, 30, 2014-2032	3.3	67
74	New estimates of flood exposure in developing countries using high-resolution population data. *Nature Communications*, **2019**, 10, 1814	17.4	65
73	Calibration of channel depth and friction parameters in the LISFLOOD-FP hydraulic model using medium-resolution SAR data and identifiability techniques. *Hydrology and Earth System Sciences*, **2016**, 20, 4983-4997	5.5	60
72	Modelling of flood hazard extent in data sparse areas: a case study of the Oti River basin, West Africa. *Journal of Hydrology: Regional Studies*, **2017**, 10, 122-132	3.6	59
71	Efficient incorporation of channel cross-section geometry uncertainty into regional and global scale flood inundation models. *Journal of Hydrology*, **2015**, 529, 169-183	6	57
70	Visualization approaches for communicating real-time flood forecasting level and inundation information. *Journal of Flood Risk Management*, **2010**, 3, 140-150	3.1	55
69	Near-Real-Time Assimilation of SAR-Derived Flood Maps for Improving Flood Forecasts. *Water Resources Research*, **2018**, 54, 5516-5535	5.4	52
68	Perspectives on Digital Elevation Model (DEM) Simulation for Flood Modeling in the Absence of a High-Accuracy Open Access Global DEM. *Frontiers in Earth Science*, **2018**, 6,	3.5	51

67	Accuracy assessment of the TanDEM-X 90 Digital Elevation Model for selected floodplain sites. *Remote Sensing of Environment*, **2019**, 232, 111319	13.2	49
66	Surface water connectivity dynamics of a large scale extreme flood. *Journal of Hydrology*, **2013**, 505, 138-149	6	48
65	Quantifying local rainfall dynamics and uncertain boundary conditions into a nested regional-local flood modeling system. *Water Resources Research*, **2017**, 53, 2770-2785	5.4	41
64	Geometric and structural river channel complexity and the prediction of urban inundation. *Hydrological Processes*, **2011**, 25, 3173-3186	3.3	41
63	Improving the TanDEM-X Digital Elevation Model for flood modelling using flood extents from Synthetic Aperture Radar images. *Remote Sensing of Environment*, **2016**, 173, 15-28	13.2	40
62	ICESat-derived inland water surface spot heights. *Water Resources Research*, **2016**, 52, 3276-3284	5.4	40
61	Observing Global Surface Water Flood Dynamics. *Surveys in Geophysics*, **2014**, 35, 839-852	7.6	39
60	Combined Modeling of US Fluvial, Pluvial, and Coastal Flood Hazard Under Current and Future Climates. *Water Resources Research*, **2021**, 57, e2020WR028673	5.4	39
59	Evolutionary leap in large-scale flood risk assessment needed. *Wiley Interdisciplinary Reviews: Water* , **2018**, 5, e1266	5.7	38
58	Probabilistic evaluation of flood hazard in urban areas using Monte Carlo simulation. *Hydrological Processes*, **2012**, 26, 3962-3972	3.3	38
57	The Spatial Dependence of Flood Hazard and Risk in the United States. *Water Resources Research*, **2019**, 55, 1890-1911	5.4	37
56	Comparing 2D capabilities of HEC-RAS and LISFLOOD-FP on complex topography. *Hydrological Sciences Journal*, **2019**, 64, 1769-1782	3.5	36
55	Rethinking flood hazard at the global scale. *Geophysical Research Letters*, **2016**, 43, 10,249-10,256	4.9	36
54	A flood inundation forecast of Hurricane Harvey using a continental-scale 2D hydrodynamic model. *Journal of Hydrology X*, **2019**, 4, 100039	4.6	31
53	A deep convolutional neural network model for rapid prediction of fluvial flood inundation. *Journal of Hydrology*, **2020**, 590, 125481	6	31
52	Perspectives on Open Access High Resolution Digital Elevation Models to Produce Global Flood Hazard Layers. *Frontiers in Earth Science*, **2016**, 3,	3.5	31
51	Optimisation of the two-dimensional hydraulic model LISFOOD-FP for CPU architecture. *Environmental Modelling and Software*, **2018**, 107, 148-157	5.2	31
50	Calibration of two-dimensional floodplain modeling in the central Atchafalaya Basin Floodway System using SAR interferometry. *Water Resources Research*, **2012**, 48,	5.4	29

49	Implications of Simulating Global Digital Elevation Models for Flood Inundation Studies. *Water Resources Research*, **2018**, 54, 7910-7928	5.4	28
48	GLOFRIM v1.0 – A globally applicable computational framework for integrated hydrological–hydrodynamic modelling. *Geoscientific Model Development*, **2017**, 10, 3913-3929	6.3	25
47	Comparing TanDEM-X Data With Frequently Used DEMs for Flood Inundation Modeling. *Water Resources Research*, **2018**, 54, 10,205	5.4	25
46	The effects of spatial resolution and dimensionality on modeling regional-scale hydraulics in a multichannel river. *Water Resources Research*, **2017**, 53, 1683-1701	5.4	24
45	An automated routing methodology to enable direct rainfall in high resolution shallow water models. *Hydrological Processes*, **2013**, 27, 467-476	3.3	23
44	Testing the skill of numerical hydraulic modeling to simulate spatiotemporal flooding patterns in the Logone floodplain, Cameroon. *Journal of Hydrology*, **2016**, 539, 265-280	6	23
43	Impact of the timing of a SAR image acquisition on the calibration of a flood inundation model. *Advances in Water Resources*, **2017**, 100, 126-138	4.7	22
42	Effects of variability in probable maximum precipitation patterns on flood losses. *Hydrology and Earth System Sciences*, **2018**, 22, 2759-2773	5.5	21
41	Adaptive space–time sampling with wireless sensor nodes for flood forecasting. *Journal of Hydrology*, **2012**, 414-415, 136-147	6	20
40	A New Automated Method for Improved Flood Defense Representation in Large-Scale Hydraulic Models. *Water Resources Research*, **2019**, 55, 11007-11034	5.4	19
39	A LISFLOOD-FP hydraulic model of the middle reach of the Congo. *Journal of Hydrology*, **2020**, 580, 124203	6	18
38	Hydraulic modeling of the 2011 New Madrid Floodway activation: a case study on floodway activation controls. *Natural Hazards*, **2015**, 77, 1863-1887	3	16
37	Emergency flood bulletins for Cyclones Idai and Kenneth: A critical evaluation of the use of global flood forecasts for international humanitarian preparedness and response. *International Journal of Disaster Risk Reduction*, **2020**, 50, 101811	4.5	13
36	A toolbox to quickly prepare flood inundation models for LISFLOOD-FP simulations. *Environmental Modelling and Software*, **2020**, 123, 104561	5.2	12
35	The Impact of Dams on Design Floods in the Conterminous US. *Water Resources Research*, **2020**, 56, e2019WR025380	5.4	10
34	Reducing Inconsistencies in Point Observations of Maximum Flood Inundation Level. *Earth Interactions*, **2013**, 17, 1-27	1.5	10
33	Evaluating the utility of the ensemble transform Kalman filter for adaptive sampling when updating a hydrodynamic model. *Journal of Hydrology*, **2009**, 375, 589-600	6	9
32	Testing the impact of direct and indirect flood warnings on population behaviour using an agent-based model. *Natural Hazards and Earth System Sciences*, **2020**, 20, 2281-2305	3.9	9

31	Comparing earth observation and inundation models to map flood hazards. *Environmental Research Letters*, **2020**, 15, 124032	6.2	9
30	Progress Toward Hyperresolution Models of Global Flood Hazard **2018**, 211-232		9
29	Inequitable patterns of US flood risk in the Anthropocene. *Nature Climate Change*, **2022**, 12, 156-162	21.4	8
28	Small-scale anthropogenic changes impact floodplain hydraulics: Simulating the effects of fish canals on the Logone floodplain. *Journal of Hydrology*, **2020**, 588, 125035	6	7
27	Assessing the Impact of Seasonal Population Fluctuation on Regional Flood Risk Management. *ISPRS International Journal of Geo-Information*, **2015**, 4, 1118-1141	2.9	7
26	Levee Breaching: A New Extension to the LISFLOOD-FP Model. *Water (Switzerland)*, **2020**, 12, 942	3	6
25	A 30 m global map of elevation with forests and buildings removed. *Environmental Research Letters*, **2022**, 17, 024016	6.2	6
24	Toward Global Stochastic River Flood Modeling. *Water Resources Research*, **2020**, 56, e2020WR027692	5.4	6
23	Bare-Earth DEM Generation in Urban Areas for Flood Inundation Simulation Using Global Digital Elevation Models. *Water Resources Research*, **2021**, 57, e2020WR028516	5.4	6
22	LISFLOOD-FP 8.0: the new discontinuous Galerkin shallow-water solver for multi-core CPUs and GPUs. *Geoscientific Model Development*, **2021**, 14, 3577-3602	6.3	6
21	Measuring and Mapping Flood Processes **2015**, 35-64		5
20	Megaflood analysis through channel networks of the Athabasca Valles, Mars based on multi-resolution stereo DTMs and 2D hydrodynamic modeling. *Planetary and Space Science*, **2014**, 99, 55-69	2	5
19	The Impact of Scale on Probabilistic Flood Inundation Maps Using a 2D Hydraulic Model with Uncertain Boundary Conditions **2014**,		5
18	Digital Elevation Models for topographic characterisation and flood flow modelling along low-gradient, terminal dryland rivers: A comparison of spaceborne datasets for the R□ Colorado, Bolivia. *Journal of Hydrology*, **2020**, 591, 125617	6	5
17	Estimating River Channel Bathymetry in Large Scale Flood Inundation Models. *Water Resources Research*, **2021**, 57, e2020WR028301	5.4	3
16	A near real-time algorithm for flood detection in urban and rural areas using high resolution Synthetic Aperture Radar images **2011**,		2
15	Design flood estimation for global river networks based on machine learning models. *Hydrology and Earth System Sciences*, **2021**, 25, 5981-5999	5.5	2
14	US fluvial, pluvial and coastal flood hazard under current and future climates		2

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13	Uncertainty in the extreme flood magnitude estimates of large-scale flood hazard models. *Environmental Research Letters*, **2021**, 16, 064013	6.2	1
12	An agent-based model for flood risk warning **2019**,		1
11	Model cascade from meteorological drivers to river flood hazard: flood-cascade v1.0. *Geoscientific Model Development*, **2021**, 14, 4865-4890	6.3	1
10	Hydraulic Model Calibration Using CryoSat-2 Observations in the Zambezi Catchment. *Water Resources Research*, **2021**, 57, e2020WR029261	5.4	1
9	Floods and Storms Practical Exercises **2015**, 213-229		0
8	Towards a Framework of Catchment Classification for Hydrologic Predictions and Water Resources Management in the Ungauged Basin of the Congo River. *Geophysical Monograph Series*, **2022**, 469-498	1.1	0
7	Multi-Return Periods, Flood Hazards, and Risk Assessment in the Congo River Basin. *Geophysical Monograph Series*, **2022**, 519-540	1.1	0
6	Global and Low-Cost Topographic Data to Support Flood Studies **2015**, 105-123		
5	Urban flood modelling69-77		
4	Recent Innovations in Flood Hazard Modelling Over Large Data Sparse Regions. *Springer Climate*, **2022**, 121-127	0.3	
3	Integrating Earth Observation Data of Floods with Large-Scale Hydrodynamic Models. *Geophysical Monograph Series*, **2021**, 123-135	1.1	
2	Evaluation des risques d'inondation pour des périodes de retour multiples dans le bassin du fleuve Congo. *Geophysical Monograph Series*, **2022**, 537-559	1.1	
1	Vers un cadre de classification des bassins versants pour les prédictions hydrologiques et la gestion des ressources en eau dans le bassin non jaugé du fleuve Congo : une approche a priori. *Geophysical Monograph Series*, **2022**, 485-515	1.1	