Guy J Schumann

List of Publications by Year
in descending order

91	6,752	57758	64796
papers	citations	44 h-index	79 g-index

130	130	130	4802
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Towards an automated SAR-based flood monitoring system: Lessons learned from two case studies. Physics and Chemistry of the Earth, 2011, 36, 241-252.	2.9	356
2	A subgrid channel model for simulating river hydraulics and floodplain inundation over large and data sparse areas. Water Resources Research, 2012, 48, .	4.2	339
3	A Change Detection Approach to Flood Mapping in Urban Areas Using TerraSAR-X. IEEE Transactions on Geoscience and Remote Sensing, 2013, 51, 2417-2430.	6.3	320
4	Progress in integration of remote sensingâ€“derived flood extent and stage data and hydraulic models. Reviews of Geophysics, 2009, 47, .	23.0	272
5	Flood Detection in Urban Areas Using TerraSAR-X. IEEE Transactions on Geoscience and Remote Sensing, 2010, 48, 882-894.	6.3	225
6	Integration of SAR-derived river inundation areas, high-precision topographic data and a river flow model toward near real-time flood management. International Journal of Applied Earth Observation and Geoinformation, 2007, 9, 247-263.	2.8	218
7	Flood-plain mapping: a critical discussion of deterministic and probabilistic approaches. Hydrological Sciences Journal, 2010, 55, 364-376.	2.6	213
8	Comparison of remotely sensed water stages from LiDAR, topographic contours and SRTM. ISPRS Journal of Photogrammetry and Remote Sensing, 2008, 63, 283-296.	11.1	176
9	A simple global river bankfull width and depth database. Water Resources Research, 2013, 49, 7164-7168.	4.2	168
10	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.	6.3	165
11	An intercomparison of remote sensing river discharge estimation algorithms from measurements of river height, width, and slope. Water Resources Research, 2016, 52, 4527-4549.	4.2	163
12	High-Resolution 3-D Flood Information From Radar Imagery for Flood Hazard Management. IEEE Transactions on Geoscience and Remote Sensing, 2007, 45, 1715-1725.	6.3	155
13	A first large-scale flood inundation forecasting model. Water Resources Research, 2013, 49, 6248-6257.	4.2	150
14	A technique for the calibration of hydraulic models using uncertain satellite observations of flood extent. Journal of Hydrology, 2009, 367, 276-282.	5.4	142
15	Combined Modeling of US Fluvial, Pluvial, and Coastal Flood Hazard Under Current and Future Climates. Water Resources Research, 2021, 57, e2020WR028673.	4.2	137
16	Microwave remote sensing of flood inundation. Physics and Chemistry of the Earth, 2015, 83-84, 84-95.	2.9	134
17	A data assimilation approach to discharge estimation from space. Hydrological Processes, 2009, 23, 3641-3649.	2.6	132
18	Deriving distributed roughness values from satellite radar data for flood inundation modelling. Journal of Hydrology, 2007, 344, 96-111.	5.4	125

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19	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.	11.0	125
20	The Utility of Spaceborne Radar to Render Flood Inundation Maps Based on Multialgorithm Ensembles. IEEE Transactions on Geoscience and Remote Sensing, 2009, 47, 2801-2807.	6.3	120
21	Evaluating a new LISFLOODâ€FP formulation with data from the summer 2007 floods in Tewkesbury, UK. Journal of Flood Risk Management, 2011, 4, 88-95.	3.3	116
22	Water Level Estimation and Reduction of Hydraulic Model Calibration Uncertainties Using Satellite SAR Images of Floods. IEEE Transactions on Geoscience and Remote Sensing, 2009, 47, 431-441.	6.3	108
23	A review of lowâ€cost spaceâ€borne data for flood modelling: topography, flood extent and water level. Hydrological Processes, 2015, 29, 3368-3387.	2.6	107
24	SRTM vegetation removal and hydrodynamic modeling accuracy. Water Resources Research, 2013, 49, 5276-5289.	4.2	105
25	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.	2.7	100
26	Assisting Flood Disaster Response with Earth Observation Data and Products: A Critical Assessment. Remote Sensing, 2018, 10, 1230.	4.0	94
27	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.	11.0	91
28	Global Relationships Between River Width, Slope, Catchment Area, Meander Wavelength, Sinuosity, and Discharge. Geophysical Research Letters, 2019, 46, 3252-3262.	4.0	91
29	Near realâ€time flood wave approximation on large rivers from space: Application to the River Po, Italy. Water Resources Research, 2010, 46, .	4.2	90
30	A global network for operational flood risk reduction. Environmental Science and Policy, 2018, 84, 149-158.	4.9	89
31	Hydraulic characterization of the middle reach of the Congo River. Water Resources Research, 2013, 49, 5059-5070.	4.2	86
32	Fight floods on a global scale. Nature, 2014, 507, 169-169.	27.8	79
33	Flood Mapping Based on Synthetic Aperture Radar: An Assessment of Established Approaches. IEEE Transactions on Geoscience and Remote Sensing, 2019, 57, 722-739.	6.3	78
34	Timely Low Resolution SAR Imagery To Support Floodplain Modelling: a Case Study Review. Surveys in Geophysics, 2011, 32, 255-269.	4.6	76
35	Floodplain channel morphology and networks of the middle Amazon River. Water Resources Research, 2012, 48, .	4.2	76
36	Towards global flood mapping onboard low cost satellites with machine learning. Scientific Reports, 2021, 11, 7249.	3.3	76

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37	Problems with binary pattern measures for flood model evaluation. Hydrological Processes, 2014, 28, 4928-4937.	2.6	74
38	The Need for a High-Accuracy, Open-Access Global DEM. Frontiers in Earth Science, 2018, 6, .	1.8	73
39	Near real time satellite imagery to support and verify timely flood modelling. Hydrological Processes, 2009, 23, 799-803.	2.6	69
40	Calibration and sequential updating of a coupled hydrologic-hydraulic model using remote sensing-derived water stages. Hydrology and Earth System Sciences, 2009, 13, 367-380.	4.9	61
41	Estimating the impact of satellite observations on the predictability of large-scale hydraulic models. Advances in Water Resources, 2014, 73, 44-54.	3.8	56
42	Challenges, Opportunities, and Pitfalls for Global Coupled Hydrologicâ€Hydraulic Modeling of Floods. Water Resources Research, 2019, 55, 5277-5300.	4.2	52
43	Geodetic corrections to Amazon River water level gauges using ICESat altimetry. Water Resources Research, 2012, 48, .	4.2	51
44	Automated River Reach Definition Strategies: Applications for the Surface Water and Ocean Topography Mission. Water Resources Research, 2017, 53, 8164-8186.	4.2	46
45	Exploiting the proliferation of current and future satellite observations of rivers. Hydrological Processes, 2016, 30, 2891-2896.	2.6	42
46	Rethinking flood hazard at the global scale. Geophysical Research Letters, 2016, 43, 10,249.	4.0	41
47	Preface: Remote Sensing for Flood Mapping and Monitoring of Flood Dynamics. Remote Sensing, 2019, 11, 943.	4.0	41
48	Observing Global Surface Water Flood Dynamics. Surveys in Geophysics, 2014, 35, 839-852.	4.6	40
49	An Overview of Flood Concepts, Challenges, and Future Directions. Journal of Hydrologic Engineering - ASCE, 2022, 27, .	1.9	36
50	Downscaling coarse grid hydrodynamic model simulations over large domains. Journal of Hydrology, 2014, 508, 289-298.	5.4	34
51	Unlocking the full potential of Earth observation during the 2015 Texas flood disaster. Water Resources Research, 2016, 52, 3288-3293.	4.2	34
52	Selecting the appropriate hydraulic model structure using low-resolution satellite imagery. Advances in Water Resources, 2011, 34, 38-46.	3.8	32
53	The direct use of radar satellites for event-specific flood risk mapping. Remote Sensing Letters, 2010, 1, 75-84.	1.4	31
54	ROCâ€based calibration of flood inundation models. Hydrological Processes, 2014, 28, 5495-5502.	2.6	31

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55	Rapid Mapping of Small-Scale River-Floodplain Environments Using UAV SfM Supports Classical Theory. Remote Sensing, 2019, 11, 982.	4.0	30
56	Conditioning Water Stages From Satellite Imagery on Uncertain Data Points. IEEE Geoscience and Remote Sensing Letters, 2008, 5, 810-813.	3.1	29
57	Tracking water level changes of the Amazon Basin with space-borne remote sensing and integration with large scale hydrodynamic modelling: A review. Physics and Chemistry of the Earth, 2011, 36, 223-231.	2.9	29
58	Understanding the variability of an extreme storm tide along a coastline. Estuarine, Coastal and Shelf Science, 2013, 123, 19-25.	2.1	29
59	Will the Surface Water and Ocean Topography (SWOT) Satellite Mission Observe Floods?. Geophysical Research Letters, 2019, 46, 10435-10445.	4.0	28
60	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.	3.8	27
61	Preface: Remote Sensing in Flood Monitoring and Management. Remote Sensing, 2015, 7, 17013-17015.	4.0	26
62	Sea surface salinity variability in response to the Congo river discharge. Continental Shelf Research, 2015, 99, 35-45.	1.8	24
63	Assessment of soil moisture fields from imperfect climate models with uncertain satellite observations. Hydrology and Earth System Sciences, 2009, 13, 1545-1553.	4.9	21
64	Comparing earth observation and inundation models to map flood hazards. Environmental Research Letters, 2020, 15, 124032.	5.2	21
65	Estimating uncertainty associated with water stages from a single SAR image. Advances in Water Resources, 2008, 31, 1038-1047.	3.8	20
66	Evaluating uncertain flood inundation predictions with uncertain remotely sensed water stages. International Journal of River Basin Management, 2008, 6, 187-199.	2.7	17
67	Can Atmospheric Reanalysis Data Sets Be Used to Reproduce Flooding Over Large Scales?. Geophysical Research Letters, 2017, 44, 10,369.	4.0	16
68	On the Impacts of Observation Location, Timing, and Frequency on Flood Extent Assimilation Performance. Water Resources Research, 2021, 57, e2020WR028238.	4.2	15
69	A Mutual Informationâ€Based Likelihood Function for Particle Filter Flood Extent Assimilation. Water Resources Research, 2021, 57, e2020WR027859.	4.2	15
70	High-Accuracy Elevation Data at Large Scales from Airborne Single-Pass SAR Interferometry. Frontiers in Earth Science, 2016, 3, .	1.8	14
71	Surface Water Dynamics from Space: A Round Robin Intercomparison of Using Optical and SAR High-Resolution Satellite Observations for Regional Surface Water Detection. Remote Sensing, 2022, 14, 2410.	4.0	14
72	The Utility of SMAP Soil Moisture and Freeze-Thaw Datasets as Precursors to Spring-Melt Flood Conditions: A Case Study in the Red River of the North Basin. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2019, 12, 2848-2861.	4.9	12

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73	The need for scientific rigour and accountability in flood mapping to better support disaster response. Hydrological Processes, 2019, 33, 3138-3142.	2.6	12
74	Flow Duration Curve from Satellite: Potential of a Lifetime SWOT Mission. Remote Sensing, 2018, 10, 1107.	4.0	11
75	Role of Earth Observation Data in Disaster Response and Recovery: From Science to Capacity Building. Springer Remote Sensing/photogrammetry, 2016, , 119-146.	0.4	9
76	Engaging the User Community for Advancing Societal Applications of the Surface Water Ocean Topography Mission. Bulletin of the American Meteorological Society, 2017, 98, ES285-ES290.	3.3	9
77	DFOâ€"Flood Observatory. , 2021, , 147-164.		9
78	A Global Capacity Building Vision for Societal Applications of Earth Observing Systems and Data: Key Questions and Recommendations. Bulletin of the American Meteorological Society, 2016, 97, 1295-1299.	3.3	7
79	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.	1.7	6
80	Measuring and Mapping Flood Processes. , 2015, , 35-64.		6
81	Bare Earth DEM Generation for Large Floodplains Using Image Classification in High-Resolution Single-Pass InSAR. Frontiers in Earth Science, 2020, 8, .	1.8	6
82	Observing Global Surface Water Flood Dynamics. Space Sciences Series of ISSI, 2013, , 839-852.	0.0	6
83	DisasterAWARE â€“ A GLOBAL ALERTING PLATFORM FOR FLOOD EVENTS. ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences, 0, VI-3/W1-2020, 107-113.	0.0	5
84	A near real-time algorithm for flood detection in urban and rural areas using high resolution Synthetic Aperture Radar images. , 2011, , .		4
85	HP - Special Issue on Flood Risk and Uncertainty. Hydrological Processes, 2013, 27, 1291-1291.	2.6	4
86	A Method to Assess Localized Impact of Better Floodplain Topography on Flood Risk Prediction. Advances in Meteorology, 2016, 2016, 1-8.	1.6	4
87	Generating Flood Hazard Maps Based on an Innovative Spatial Interpolation Methodology for Precipitation. Atmosphere, 2021, 12, 1336.	2.3	3
88	Applying Remote Sensing to Support Flood Risk Assessment and Relief Agencies: A Global to Local Approach. , 2020, , .		3
89	The Full Potential of EO for Flood Applications: Managing Expectations. , 2021, , 305-320.		2
90	Application of a degree-day snow depth model to a Swiss glacierised catchment to improve neural network discharge forecasts. Hydrology Research, 2005, 36, 99-111.	2.7	2

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91	Grand Challenges in Microwave Remote Sensing. Frontiers in Remote Sensing, 2020, 1, .	3.5	2