

# Andrea Rinaldo

## List of Publications by Year in descending order

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Version: 2024-02-01

143  
papers

11,209  
citations

28190

55  
h-index

32761

100  
g-index

150  
all docs

150  
docs citations

150  
times ranked

10457  
citing authors

#	ARTICLE	IF	CITATIONS
1	Persistence of amphibian metapopulation occupancy in dynamic wetlandscapes. <i>Landscape Ecology</i> , 2022, 37, 695-711.	1.9	9
2	Toward a Closure of Catchment Mass Balance: Insight on the Missing Link From a Vegetated Lysimeter. <i>Water Resources Research</i> , 2022, 58, .	1.7	6
3	Epidemicity of cholera spread and the fate of infection control measures. <i>Journal of the Royal Society Interface</i> , 2022, 19, 20210844.	1.5	1
4	Phloem water isotopically different to xylem water: Potential causes and implications for ecohydrological tracing. <i>Ecohydrology</i> , 2022, 15, .	1.1	16
5	<i>Ecohydrology 2.0</i> . <i>Rendiconti Lincei</i> , 2022, 33, 245-270.	1.0	4
6	Applying the Principal Component Analysis for a deeper understanding of the groundwater system: case study of the Bacchiglione Basin (Veneto, Italy). <i>Acque Sotterranee - Italian Journal of Groundwater</i> , 2022, 11, 7-17.	0.2	3
7	Optimal control of the spatial allocation of COVID-19 vaccines: Italy as a case study. <i>PLoS Computational Biology</i> , 2022, 18, e1010237.	1.5	19
8	Tree water deficit and dynamic source water partitioning. <i>Hydrological Processes</i> , 2021, 35, .	1.1	34
9	Toward catchment hydro-geochemical theories. <i>Wiley Interdisciplinary Reviews: Water</i> , 2021, 8, e1495.	2.8	65
10	Range of reproduction number estimates for COVID-19 spread. <i>Biochemical and Biophysical Research Communications</i> , 2021, 538, 253-258.	1.0	13
11	Dynamic spatio-temporal patterns of metapopulation occupancy in patchy habitats. <i>Royal Society Open Science</i> , 2021, 8, 201309.	1.1	11
12	Tracing and Closing the Water Balance in a Vegetated Lysimeter. <i>Water Resources Research</i> , 2021, 57, e2020WR029049.	1.7	20
13	The epidemicity index of recurrent SARS-CoV-2 infections. <i>Nature Communications</i> , 2021, 12, 2752.	5.8	8
14	The Widened Pipe Model of plant hydraulic evolution. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	36
15	A Note on the Role of Seasonal Expansions and Contractions of the Flowing Fluvial Network on Metapopulation Persistence. <i>Water Resources Research</i> , 2021, 57, e2021WR029813.	1.7	12
16	SESTET: A spatially explicit stream temperature model based on equilibrium temperature. <i>Hydrological Processes</i> , 2020, 34, 355-369.	1.1	4
17	<i>Species.</i> , 2020, , 47-113.		0
18	<i>Populations.</i> , 2020, , 114-224.		0

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19	Waterborne Disease. , 2020, , 225-339.		0
20	Afterthoughts and Outlook. , 2020, , 340-361.		0
21	Achieving coordinated national immunity and cholera elimination in Haiti through vaccination: a modelling study. <i>The Lancet Global Health</i> , 2020, 8, e1081-e1089.	2.9	26
22	The geography of COVID-19 spread in Italy and implications for the relaxation of confinement measures. <i>Nature Communications</i> , 2020, 11, 4264.	5.8	110
23	Biological fluid dynamics of airborne COVID-19 infection. <i>Rendiconti Lincei</i> , 2020, 31, 505-537.	1.0	65
24	Spread and dynamics of the COVID-19 epidemic in Italy: Effects of emergency containment measures. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 10484-10491.	3.3	878
25	Earth and field observations underpin metapopulation dynamics in complex landscapes: Near-term study on carabids. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 12877-12884.	3.3	4
26	Generation and application of river network analogues for use in ecology and evolution. <i>Ecology and Evolution</i> , 2020, 10, 7537-7550.	0.8	41
27	Transport and Water Age Dynamics in Soils: A Comparative Study of Spatially Integrated and Spatially Explicit Models. <i>Water Resources Research</i> , 2020, 56, no.	1.7	23
28	Advancing ecohydrology in the 21st century: A convergence of opportunities. <i>Ecohydrology</i> , 2020, 13, e2208.	1.1	34
29	Assessing the impact of non-pharmaceutical interventions on SARS-CoV-2 transmission in Switzerland. <i>Swiss Medical Weekly</i> , 2020, 150, w20295.	0.8	61
30	Effects of altered river network connectivity on the distribution of <i>Salmo trutta</i> : Insights from a metapopulation model. <i>Freshwater Biology</i> , 2019, 64, 1877-1895.	1.2	18
31	Modelled effects of prawn aquaculture on poverty alleviation and schistosomiasis control. <i>Nature Sustainability</i> , 2019, 2, 611-620.	11.5	32
32	On the probabilistic nature of the species-area relation. <i>Journal of Theoretical Biology</i> , 2019, 462, 391-407.	0.8	4
33	Conditions for transient epidemics of waterborne disease in spatially explicit systems. <i>Royal Society Open Science</i> , 2019, 6, 181517.	1.1	23
34	Estimation of streamflow recession parameters: New insights from an analytic streamflow distribution model. <i>Hydrological Processes</i> , 2019, 33, 1595-1609.	1.1	19
35	A minimalist model of extinction and range dynamics of virtual mountain species driven by warming temperatures. <i>PLoS ONE</i> , 2019, 14, e0213775.	1.1	18
36	Generalized size scaling of metabolic rates based on single-cell measurements with freshwater phytoplankton. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 17323-17329.	3.3	16

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37	Space and time predictions of schistosomiasis snail host population dynamics across hydrologic regimes in Burkina Faso. <i>Geospatial Health</i> , 2019, 14, .	0.3	12
38	Velocities, Residence Times, Tracer Breakthroughs in a Vegetated Lysimeter: A Multitracer Experiment. <i>Water Resources Research</i> , 2019, 55, 21-33.	1.7	28
39	Evolving biodiversity patterns in changing river networks. <i>Journal of Theoretical Biology</i> , 2019, 462, 418-424.	0.8	28
40	Rainfall as a driver of epidemic cholera: Comparative model assessments of the effect of intra-seasonal precipitation events. <i>Acta Tropica</i> , 2019, 190, 235-243.	0.9	47
41	Field migration rates of tidal meanders recapitulate fluvial morphodynamics. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 1463-1468.	3.3	66
42	Epidemicity thresholds for water-borne and water-related diseases. <i>Journal of Theoretical Biology</i> , 2018, 447, 126-138.	0.8	22
43	Spread of proliferative kidney disease in fish along stream networks: A spatial metacommunity framework. <i>Freshwater Biology</i> , 2018, 63, 114-127.	1.2	37
44	River networks as ecological corridors: A coherent ecohydrological perspective. <i>Advances in Water Resources</i> , 2018, 112, 27-58.	1.7	58
45	Catchment Drainage Network Scaling Laws Found Experimentally in Overland Flow Morphologies. <i>Geophysical Research Letters</i> , 2018, 45, 9614-9622.	1.5	6
46	Environmental heterogeneity promotes spatial resilience of phototrophic biofilms in streambeds. <i>Biology Letters</i> , 2018, 14, 20180432.	1.0	14
47	Estimating species distribution and abundance in river networks using environmental DNA. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 11724-11729.	3.3	116
48	Near real-time forecasting for cholera decision making in Haiti after Hurricane Matthew. <i>PLoS Computational Biology</i> , 2018, 14, e1006127.	1.5	27
49	Integration of satellite remote sensing data in ecosystem modelling at local scales: Practices and trends. <i>Methods in Ecology and Evolution</i> , 2018, 9, 1810-1821.	2.2	48
50	River landscapes and optimal channel networks. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 6548-6553.	3.3	32
51	The potential impact of case-area targeted interventions in response to cholera outbreaks: A modeling study. <i>PLoS Medicine</i> , 2018, 15, e1002509.	3.9	52
52	Using SAS functions and high-resolution isotope data to unravel travel time distributions in headwater catchments. <i>Water Resources Research</i> , 2017, 53, 1864-1878.	1.7	102
53	Demographic stochasticity and resource autocorrelation control biological invasions in heterogeneous landscapes. <i>Oikos</i> , 2017, 126, 1554-1563.	1.2	25
54	Modeling Key Drivers of Cholera Transmission Dynamics Provides New Perspectives for Parasitology. <i>Trends in Parasitology</i> , 2017, 33, 587-599.	1.5	22

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55	A generalized definition of reactivity for ecological systems and the problem of transient species dynamics. <i>Methods in Ecology and Evolution</i> , 2017, 8, 1574-1584.	2.2	28
56	Classification and prediction of river network ephemerality and its relevance for waterborne disease epidemiology. <i>Advances in Water Resources</i> , 2017, 110, 263-278.	1.7	28
57	Integrated field, laboratory, and theoretical study of PKD spread in a Swiss prealpine river. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 11992-11997.	3.3	60
58	Covariations in ecological scaling laws fostered by community dynamics. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 10672-10677.	3.3	25
59	Real-time projections of cholera outbreaks through data assimilation and rainfall forecasting. <i>Advances in Water Resources</i> , 2017, 108, 345-356.	1.7	14
60	On the probability of extinction of the Haiti cholera epidemic. <i>Stochastic Environmental Research and Risk Assessment</i> , 2016, 30, 2043-2055.	1.9	41
61	An epidemiological model for proliferative kidney disease in salmonid populations. <i>Parasites and Vectors</i> , 2016, 9, 487.	1.0	32
62	Statistical characterization of spatiotemporal sediment dynamics in the Venice lagoon. <i>Journal of Geophysical Research F: Earth Surface</i> , 2016, 121, 1049-1064.	1.0	32
63	Mobile phone data highlights the role of mass gatherings in the spreading of cholera outbreaks. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 6421-6426.	3.3	133
64	Hydrology and density feedbacks control the ecology of intermediate hosts of schistosomiasis across habitats in seasonal climates. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 6427-6432.	3.3	61
65	Field study on drainage densities and rescaled width functions in a high-altitude alpine catchment. <i>Hydrological Processes</i> , 2016, 30, 2138-2152.	1.1	11
66	Geomorphic controls on elevational gradients of species richness. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 1737-1742.	3.3	97
67	Metapopulation capacity of evolving fluvial landscapes. <i>Water Resources Research</i> , 2015, 51, 2696-2706.	1.7	39
68	Linking water age and solute dynamics in streamflow at the Hubbard Brook experimental forest, NH, USA. <i>Water Resources Research</i> , 2015, 51, 9256-9272.	1.7	83
69	Storage selection functions: A coherent framework for quantifying how catchments store and release water and solutes. <i>Water Resources Research</i> , 2015, 51, 4840-4847.	1.7	170
70	Transport of fluorobenzoate tracers in a vegetated hydrologic control volume: 2. Theoretical inferences and modeling. <i>Water Resources Research</i> , 2015, 51, 2793-2806.	1.7	44
71	Transport of fluorobenzoate tracers in a vegetated hydrologic control volume: 1. Experimental results. <i>Water Resources Research</i> , 2015, 51, 2773-2792.	1.7	23
72	Thermodynamics in the hydrologic response: Travel time formulation and application to alpine catchments. <i>Water Resources Research</i> , 2015, 51, 1671-1687.	1.7	20

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73	Modeling chloride transport using travel time distributions at Plynlimon, Wales. <i>Water Resources Research</i> , 2015, 51, 3259-3276.	1.7	109
74	Scale-dependent effects of solar radiation patterns on the snow-dominated hydrologic response. <i>Geophysical Research Letters</i> , 2015, 42, 3895-3902.	1.5	35
75	A Theoretical Analysis of the Geography of Schistosomiasis in Burkina Faso Highlights the Roles of Human Mobility and Water Resources Development in Disease Transmission. <i>PLoS Neglected Tropical Diseases</i> , 2015, 9, e0004127.	1.3	34
76	Resilience and reactivity of global food security. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 6902-6907.	3.3	179
77	Sample and population exponents of generalized Taylor's law. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 7755-7760.	3.3	64
78	On the predictive ability of mechanistic models for the Haitian cholera epidemic. <i>Journal of the Royal Society Interface</i> , 2015, 12, 20140840.	1.5	25
79	Generalized receptor law governs phototaxis in the phytoplankton <i>Euglena gracilis</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 7045-7050.	3.3	60
80	Cholera in the Lake Kivu region (DRC): Integrating remote sensing and spatially explicit epidemiological modeling. <i>Water Resources Research</i> , 2014, 50, 5624-5637.	1.7	27
81	Fluvial network organization imprints on microbial co-occurrence networks. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 12799-12804.	3.3	193
82	Glucose- but Not Rice-Based Oral Rehydration Therapy Enhances the Production of Virulence Determinants in the Human Pathogen <i>Vibrio cholerae</i> . <i>PLoS Neglected Tropical Diseases</i> , 2014, 8, e3347.	1.3	34
83	Evolution and selection of river networks: Statics, dynamics, and complexity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 2417-2424.	3.3	143
84	Metapopulation persistence and species spread in river networks. <i>Ecology Letters</i> , 2014, 17, 426-434.	3.0	113
85	Floquet theory for seasonal environmental forcing of spatially explicit waterborne epidemics. <i>Theoretical Ecology</i> , 2014, 7, 351-365.	0.4	33
86	Hydrologic controls on basin-scale distribution of benthic invertebrates. <i>Water Resources Research</i> , 2014, 50, 2903-2920.	1.7	48
87	Complex Interaction of Dendritic Connectivity and Hierarchical Patch Size on Biodiversity in River-Like Landscapes. <i>American Naturalist</i> , 2014, 183, 13-25.	1.0	108
88	Geomorphic signatures on Brutsaert base flow recession analysis. <i>Water Resources Research</i> , 2013, 49, 5462-5472.	1.7	70
89	Analytic probability distributions for snow-dominated streamflow. <i>Water Resources Research</i> , 2013, 49, 2701-2713.	1.7	37
90	Catchment-scale herbicides transport: Theory and application. <i>Advances in Water Resources</i> , 2013, 52, 232-242.	1.7	45

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91	Statistical mechanics of wind wave-induced erosion in shallow tidal basins: Inferences from the Venice Lagoon. <i>Geophysical Research Letters</i> , 2013, 40, 3402-3407.	1.5	46
92	Scaling body size fluctuations. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 4646-4650.	3.3	77
93	Rainfall mediations in the spreading of epidemic cholera. <i>Advances in Water Resources</i> , 2013, 60, 34-46.	1.7	17
94	The geomorphometry of endorheic drainage basins: implications for interpreting and modelling their evolution. <i>Earth Surface Processes and Landforms</i> , 2013, 38, 1881-1896.	1.2	21
95	Chloride circulation in a lowland catchment and the formulation of transport by travel time distributions. <i>Water Resources Research</i> , 2013, 49, 4619-4632.	1.7	74
96	Spatially Explicit Conditions for Waterborne Pathogen Invasion. <i>American Naturalist</i> , 2013, 182, 328-346.	1.0	37
97	Kinematics of age mixing in advection-dispersion models. <i>Water Resources Research</i> , 2013, 49, 8539-8551.	1.7	56
98	Hydrologic Variability Affects Invertebrate Grazing on Phototrophic Biofilms in Stream Microcosms. <i>PLoS ONE</i> , 2013, 8, e60629.	1.1	41
99	Modelling cholera epidemics: the role of waterways, human mobility and sanitation. <i>Journal of the Royal Society Interface</i> , 2012, 9, 376-388.	1.5	143
100	An exactly solvable coarse-grained model for species diversity. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2012, 2012, P07017.	0.9	4
101	Reassessment of the 2010-2011 Haiti cholera outbreak and rainfall-driven multiseason projections. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 6602-6607.	3.3	153
102	Generalized reproduction numbers and the prediction of patterns in waterborne disease. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 19703-19708.	3.3	76
103	Signatures of sea level changes on tidal geomorphology: Experiments on network incision and retreat. <i>Geophysical Research Letters</i> , 2012, 39, .	1.5	49
104	Ecohydrology: a fast moving field. <i>Ecohydrology</i> , 2012, 5, 519-519.	1.1	0
105	Dendritic connectivity controls biodiversity patterns in experimental metacommunities. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 5761-5766.	3.3	293
106	Hydroclimatology of dual-peak annual cholera incidence: Insights from a spatially explicit model. <i>Geophysical Research Letters</i> , 2012, 39, .	1.5	27
107	The role of aquatic reservoir fluctuations in long-term cholera patterns. <i>Epidemics</i> , 2012, 4, 33-42.	1.5	25
108	On the role of human mobility in the spread of cholera epidemics: towards an epidemiological movement ecology. <i>Ecohydrology</i> , 2012, 5, 531-540.	1.1	21

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109	Prediction of the spatial evolution and effects of control measures for the unfolding Haiti cholera outbreak. <i>Geophysical Research Letters</i> , 2011, 38, n/a-n/a.	1.5	82
110	Catchment residence and travel time distributions: The master equation. <i>Geophysical Research Letters</i> , 2011, 38, n/a-n/a.	1.5	227
111	Catchment travel time distributions and water flow in soils. <i>Water Resources Research</i> , 2011, 47, .	1.7	163
112	Evolution of dispersal in explicitly spatial metacommunities. <i>Journal of Theoretical Biology</i> , 2011, 269, 256-265.	0.8	22
113	Spatial effects on species persistence and implications for biodiversity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 4346-4351.	3.3	70
114	Metabolic principles of river basin organization. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 11751-11755.	3.3	30
115	Effects of Connectivity and Recurrent Local Disturbances on Community Structure and Population Density in Experimental Metacommunities. <i>PLoS ONE</i> , 2011, 6, e19525.	1.1	78
116	On spatially explicit models of cholera epidemics. <i>Journal of the Royal Society Interface</i> , 2010, 7, 321-333.	1.5	166
117	Ecohydrology of Terrestrial Ecosystems. <i>BioScience</i> , 2010, 60, 898-907.	2.2	109
118	Transport in the hydrologic response: Travel time distributions, soil moisture dynamics, and the old water paradox. <i>Water Resources Research</i> , 2010, 46, .	1.7	208
119	River networks as ecological corridors: A complex systems perspective for integrating hydrologic, geomorphologic, and ecologic dynamics. <i>Water Resources Research</i> , 2009, 45, .	1.7	148
120	Patterns of vegetation biodiversity: The roles of dispersal directionality and river network structure. <i>Journal of Theoretical Biology</i> , 2008, 252, 221-229.	0.8	37
121	Neutral metacommunity models predict fish diversity patterns in Mississippiâ€™s Missouri basin. <i>Nature</i> , 2008, 453, 220-222.	13.7	323
122	On the spaceâ€™time evolution of a cholera epidemic. <i>Water Resources Research</i> , 2008, 44, .	1.7	111
123	Scaling in Ecosystems and the Linkage of Macroecological Laws. <i>Physical Review Letters</i> , 2007, 98, 068104.	2.9	37
124	Biologically-controlled multiple equilibria of tidal landforms and the fate of the Venice lagoon. <i>Geophysical Research Letters</i> , 2007, 34, .	1.5	199
125	Landscape evolution in tidal embayments: Modeling the interplay of erosion, sedimentation, and vegetation dynamics. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	247
126	A neutral metapopulation model of biodiversity in river networks. <i>Journal of Theoretical Biology</i> , 2007, 245, 351-363.	0.8	94



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127	Network allometry. <i>Geophysical Research Letters</i> , 2002, 29, 3-1.	1.5	107
128	Microbial size spectra from natural and nutrient enriched ecosystems. <i>Limnology and Oceanography</i> , 2001, 46, 778-789.	1.6	100
129	Scaling, Optimality, and Landscape Evolution. <i>Journal of Statistical Physics</i> , 2001, 104, 1-48.	0.5	92
130	Topology of the Fittest Transportation Network. <i>Physical Review Letters</i> , 2000, 84, 4745-4748.	2.9	117
131	Size and form in efficient transportation networks. <i>Nature</i> , 1999, 399, 130-132.	13.7	713
132	CHANNEL NETWORKS. <i>Annual Review of Earth and Planetary Sciences</i> , 1998, 26, 289-327.	4.6	132
133	Sculpting of a Fractal River Basin. <i>Physical Review Letters</i> , 1997, 78, 4522-4525.	2.9	78
134	Scaling laws for river networks. <i>Physical Review E</i> , 1996, 53, 1510-1515.	0.8	208
135	On landscape self-organization. <i>Journal of Geophysical Research</i> , 1994, 99, 11971-11993.	3.3	102
136	Self-organized river basin landscapes: Fractal and multifractal characteristics. <i>Water Resources Research</i> , 1994, 30, 3531-3539.	1.7	62
137	Self-organized fractal river networks. <i>Physical Review Letters</i> , 1993, 70, 822-825.	2.9	260
138	Energy dissipation, runoff production, and the three-dimensional structure of river basins. <i>Water Resources Research</i> , 1992, 28, 1095-1103.	1.7	258
139	Fractal structures as least energy patterns: The case of river networks. <i>Geophysical Research Letters</i> , 1992, 19, 889-892.	1.5	150
140	Minimum energy and fractal structures of drainage networks. <i>Water Resources Research</i> , 1992, 28, 2183-2195.	1.7	230
141	Geomorphological dispersion. <i>Water Resources Research</i> , 1991, 27, 513-525.	1.7	268
142	A Note on Fractal Channel Networks. <i>Water Resources Research</i> , 1991, 27, 3041-3049.	1.7	112
143	The intrusion of ecology into hydrology and morphodynamics. <i>Rendiconti Lincei</i> , 0, , 1.	1.0	0