

Gamma distribution models for transit time estimation interpretation of parameters and implications for timeâ

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Citation Report

#	ARTICLE	IF	CITATIONS
1	Elements of a flexible approach for conceptual hydrological modeling: 1. Motivation and theoretical development. <i>Water Resources Research</i> , 2011, 47, .	1.7	269
2	Catchment residence and travel time distributions: The master equation. <i>Geophysical Research Letters</i> , 2011, 38, n/a-n/a.	1.5	227
3	Landscape structure and climate influences on hydrologic response. <i>Water Resources Research</i> , 2011, 47, .	1.7	76
4	On the value of combined event runoff and tracer analysis to improve understanding of catchment functioning in a data-scarce semi-arid area. <i>Hydrology and Earth System Sciences</i> , 2011, 15, 2007-2024.	1.9	72
5	Hydrological landscape classification: investigating the performance of HAND based landscape classifications in a central European meso-scale catchment. <i>Hydrology and Earth System Sciences</i> , 2011, 15, 3275-3291.	1.9	121
6	Sensitivity of mean transit time estimates to model conditioning and data availability. <i>Hydrological Processes</i> , 2011, 25, 980-990.	1.1	62
7	Storage as a Metric of Catchment Comparison. <i>Hydrological Processes</i> , 2011, 25, 3364-3371.	1.1	142
8	The tempered one-sided stable density: a universal model for hydrological transport?. <i>Environmental Research Letters</i> , 2011, 6, 034008.	2.2	49
10	The master transit time distribution of variable flow systems. <i>Water Resources Research</i> , 2012, 48, .	1.7	135
11	Flow path depth is the main controller of mean base flow transit times in a mountainous catchment. <i>Water Resources Research</i> , 2012, 48, .	1.7	50
12	Catchment mixing processes and travel time distributions. <i>Water Resources Research</i> , 2012, 48, .	1.7	66
13	Quantifying catchmentâ€scale mixing and its effect on timeâ€varying travel time distributions. <i>Water Resources Research</i> , 2012, 48, .	1.7	124
14	Runoff generation in a steep, tropical montane cloud forest catchment on permeable volcanic substrate. <i>Water Resources Research</i> , 2012, 48, .	1.7	127
15	Water and solute transport along hydrological pathways. <i>Water Resources Research</i> , 2012, 48, .	1.7	46
16	Do timeâ€variable tracers aid the evaluation of hydrological model structure? A multimodel approach. <i>Water Resources Research</i> , 2012, 48, .	1.7	86
17	Scaling relationships for event water contributions and transit times in smallâ€forested catchments in Eastern Quebec. <i>Water Resources Research</i> , 2012, 48, .	1.7	32
18	A new approach to simulating stream isotope dynamics using Markov switching autoregressive models. <i>Advances in Water Resources</i> , 2012, 46, 20-30.	1.7	6
19	The â€hidden streamflowâ€™ challenge in catchment hydrology: a call to action for stream water transit time analysis. <i>Hydrological Processes</i> , 2012, 26, 2061-2066.	1.1	59

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20	Hydroclimatic and hydrochemical controls on Plecoptera diversity and distribution in northern freshwater ecosystems. <i>Hydrobiologia</i> , 2012, 693, 39-53.	1.0	8
21	Caesium-137 and Strontium-90 temporal series in the Tagus River: experimental results and a modelling study. <i>Journal of Environmental Radioactivity</i> , 2012, 113, 21-31.	0.9	9
22	Linking metrics of hydrological function and transit times to landscape controls in a heterogeneous mesoscale catchment. <i>Hydrological Processes</i> , 2012, 26, 405-420.	1.1	49
23	High-frequency storm event isotope sampling reveals time-variant transit time distributions and influence of diurnal cycles. <i>Hydrological Processes</i> , 2012, 26, 308-316.	1.1	96
24	Comparative analysis of a geomorphology-based instantaneous unit hydrograph in small mountainous watersheds. <i>Hydrological Processes</i> , 2012, 26, 2909-2924.	1.1	5
25	Watershed hydrograph model based on surface flow diffusion. <i>Water Resources Research</i> , 2013, 49, 507-516.	1.7	13
26	Experimental study and modelling of the residence time distribution in a scraped surface heat exchanger during sorbet freezing. <i>Journal of Food Engineering</i> , 2013, 117, 14-25.	2.7	15
27	A decade of Predictions in Ungauged Basins (PUB) – a review. <i>Hydrological Sciences Journal</i> , 2013, 58, 1198-1255.	1.2	821
28	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
29	Universal fractal scaling in stream chemistry and its implications for solute transport and water quality trend detection. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 12213-12218.	3.3	167
30	Early melt season snowpack isotopic evolution in the Tarfala valley, northern Sweden. <i>Annals of Glaciology</i> , 2013, 54, 149-156.	2.8	39
31	Separating physical and meteorological controls of variable transit times in zero-order catchments. <i>Water Resources Research</i> , 2013, 49, 7644-7657.	1.7	88
32	Will catchment characteristics moderate the projected effects of climate change on flow regimes in the Scottish Highlands?. <i>Hydrological Processes</i> , 2013, 27, 687-699.	1.1	43
33	Importance of vegetation, topography and flow paths for water transit times of base flow in alpine headwater catchments. <i>Hydrology and Earth System Sciences</i> , 2013, 17, 1661-1679.	1.9	48
34	A generalized Damköhler number for classifying material processing in hydrological systems. <i>Hydrology and Earth System Sciences</i> , 2013, 17, 1133-1148.	1.9	88
35	What can flux tracking teach us about water age distribution patterns and their temporal dynamics?. <i>Hydrology and Earth System Sciences</i> , 2013, 17, 533-564.	1.9	217
36	Derivation of a Multiparameter Gamma Model for Analyzing the Residence-Time Distribution Function for Nonideal Flow Systems as an Alternative to the Advection-Dispersion Equation. <i>ISRN Chemical Engineering</i> , 2013, 2013, 1-8.	1.2	2
37	Hydrological and chemical connectivity dynamics in a groundwater-dependent ecosystem impacted by acid sulfate soils. <i>Water Resources Research</i> , 2013, 49, 441-457.	1.7	9

#	ARTICLE	IF	CITATIONS
38	Reevaluation of transit time distributions, mean transit times and their relation to catchment topography. <i>Hydrology and Earth System Sciences</i> , 2014, 18, 4751-4771.	1.9	67
39	ASSESSING THE CUMULATIVE IMPACTS OF HYDROPOWER REGULATION ON THE FLOW CHARACTERISTICS OF A LARGE ATLANTIC SALMON RIVER SYSTEM. <i>River Research and Applications</i> , 2014, 30, 456-475.	0.7	20
40	A review of methods for modelling environmental tracers in groundwater: Advantages of tracer concentration simulation. <i>Journal of Hydrology</i> , 2014, 519, 3674-3689.	2.3	88
41	A comparison of travel-time based catchment transport models, with application to numerical experiments. <i>Journal of Hydrology</i> , 2014, 511, 605-618.	2.3	36
42	Understanding uncertainties when inferring mean transit times of water through tracer-based lumped-parameter models in Andean tropical montane cloud forest catchments. <i>Hydrology and Earth System Sciences</i> , 2014, 18, 1503-1523.	1.9	51
43	Developing a consistent process-based conceptualization of catchment functioning using measurements of internal state variables. <i>Water Resources Research</i> , 2014, 50, 3481-3501.	1.7	73
44	Influence of lowland aquifers and anthropogenic impacts on the isotope hydrology of contrasting mesoscale catchments. <i>Hydrological Processes</i> , 2014, 28, 793-808.	1.1	12
45	Storage dynamics in hydrogeological units control hillslope connectivity, runoff generation, and the evolution of catchment transit time distributions. <i>Water Resources Research</i> , 2014, 50, 969-985.	1.7	216
46	Assessing urbanization impacts on catchment transit times. <i>Geophysical Research Letters</i> , 2014, 41, 442-448.	1.5	33
47	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
48	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
49	Transit time distributions, legacy contamination and variability in biogeochemical $1/f_{\pm}$ scaling: how are hydrological response dynamics linked to water quality at the catchment scale?. <i>Hydrological Processes</i> , 2015, 29, 5241-5256.	1.1	72
50	Tracer advances in catchment hydrology. <i>Hydrological Processes</i> , 2015, 29, 5135-5138.	1.1	28
51	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
52	Is there a superior conceptual groundwater model structure for baseflow simulation?. <i>Hydrological Processes</i> , 2015, 29, 1301-1313.	1.1	26
53	Temporal dynamics of catchment transit times from stable isotope data. <i>Water Resources Research</i> , 2015, 51, 4208-4223.	1.7	56
54	Sampling frequency trade-offs in the assessment of mean transit times of tropical montane catchment waters under semi-steady-state conditions. <i>Hydrology and Earth System Sciences</i> , 2015, 19, 1153-1168.	1.9	17
55	Time-variable transit time distributions and transport: Theory and application to storage-dependent transport of chloride in a watershed. <i>Water Resources Research</i> , 2015, 51, 1-30.	1.7	270

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56	Conceptual modelling to assess how the interplay of hydrological connectivity, catchment storage and tracer dynamics controls nonstationary water age estimates. <i>Hydrological Processes</i> , 2015, 29, 2956-2969.	1.1	95
57	Tracer-based assessment of flow paths, storage and runoff generation in northern catchments: a review. <i>Hydrological Processes</i> , 2015, 29, 3475-3490.	1.1	145
58	The Isotope Hydrology of a Large River System Regulated for Hydropower. <i>River Research and Applications</i> , 2015, 31, 335-349.	0.7	21
59	Isotope hydrology and baseflow geochemistry in natural and human-altered watersheds in the Inland Pacific Northwest, USA. <i>Isotopes in Environmental and Health Studies</i> , 2015, 51, 231-254.	0.5	37
60	Impacts of urban development on runoff event characteristics and unit hydrographs across warm and cold seasons in high latitudes. <i>Journal of Hydrology</i> , 2015, 521, 328-340.	2.3	48
61	Aggregation in environmental systems – Part 1: Seasonal tracer cycles quantify young water fractions, but not mean transit times, in spatially heterogeneous catchments. <i>Hydrology and Earth System Sciences</i> , 2016, 20, 279-297.	1.9	242
62	Insights into the water mean transit time in a high-elevation tropical ecosystem. <i>Hydrology and Earth System Sciences</i> , 2016, 20, 2987-3004.	1.9	48
63	Aggregation in environmental systems – Part 2: Catchment mean transit times and young water fractions under hydrologic nonstationarity. <i>Hydrology and Earth System Sciences</i> , 2016, 20, 299-328.	1.9	135
64	Time series of tritium, stable isotopes and chloride reveal short-term variations in groundwater contribution to a stream. <i>Hydrology and Earth System Sciences</i> , 2016, 20, 257-277.	1.9	41
65	Reply to comment by Porporato and Calabrese on “Storage selection functions: A coherent framework for quantifying how catchments store and release water and solutes”. <i>Water Resources Research</i> , 2016, 52, 616-618.	1.7	0
66	Effect of bedrock permeability on stream base flow mean transit time scaling relations: 1. A multiscale catchment intercomparison. <i>Water Resources Research</i> , 2016, 52, 1358-1374.	1.7	86
67	Travel times in the vadose zone: Variability in space and time. <i>Water Resources Research</i> , 2016, 52, 5727-5754.	1.7	103
68	Dynamic storage: a potential metric of inter-basin differences in storage properties. <i>Hydrological Processes</i> , 2016, 30, 4644-4653.	1.1	25
69	The exponential decline in saturated hydraulic conductivity with depth: a novel method for exploring its effect on water flow paths and transit time distribution. <i>Hydrological Processes</i> , 2016, 30, 2438-2450.	1.1	54
70	Hydroclimatic controls on non-stationary stream water ages in humid tropical catchments. <i>Journal of Hydrology</i> , 2016, 542, 231-240.	2.3	19
71	Groundwater transit time distribution and mean from streambed sampling in an agricultural coastal plain watershed, North Carolina, USA. <i>Water Resources Research</i> , 2016, 52, 2025-2044.	1.7	44
72	Transit time distributions and storage selection functions in a sloping soil lysimeter with time-varying flow paths: Direct observation of internal and external transport variability. <i>Water Resources Research</i> , 2016, 52, 7105-7129.	1.7	60
73	Characterization of mean transit time at large springs in the Upper Colorado River Basin, USA: a tool for assessing groundwater discharge vulnerability. <i>Hydrogeology Journal</i> , 2016, 24, 2017-2033.	0.9	16

#	ARTICLE	IF	CITATIONS
74	Inferring changes in water cycle dynamics of intensively managed landscapes via the theory of time-variant travel time distributions. <i>Water Resources Research</i> , 2016, 52, 7593-7614.	1.7	27
75	Transit times—the link between hydrology and water quality at the catchment scale. <i>Wiley Interdisciplinary Reviews: Water</i> , 2016, 3, 629-657.	2.8	184
76	Hydroclimatic influences on non-stationary transit time distributions in a boreal headwater catchment. <i>Journal of Hydrology</i> , 2016, 543, 7-16.	2.3	25
77	Hillslope permeability architecture controls on subsurface transit time distribution and flow paths. <i>Journal of Hydrology</i> , 2016, 543, 17-30.	2.3	47
78	Constitution of a catchment virtual observatory for sharing flow and transport models outputs. <i>Journal of Hydrology</i> , 2016, 543, 59-66.	2.3	14
79	Erosion mechanisms and sediment sources in a peatland forest after ditch cleaning. <i>Earth Surface Processes and Landforms</i> , 2016, 41, 1841-1853.	1.2	13
80	Importance of tritium-based transit times in hydrological systems. <i>Wiley Interdisciplinary Reviews: Water</i> , 2016, 3, 145-154.	2.8	30
81	Effect of bedrock permeability on stream base flow mean transit time scaling relationships: 2. Process study of storage and release. <i>Water Resources Research</i> , 2016, 52, 1375-1397.	1.7	45
82	Residence time distributions for hydrologic systems: Mechanistic foundations and steady-state analytical solutions. <i>Journal of Hydrology</i> , 2016, 543, 67-87.	2.3	56
83	An upscaled rate law for magnesite dissolution in heterogeneous porous media. <i>Geochimica Et Cosmochimica Acta</i> , 2017, 210, 289-305.	1.6	48
84	The relationship between contrasting ages of groundwater and streamflow. <i>Geophysical Research Letters</i> , 2017, 44, 8925-8935.	1.5	71
85	Sensitivity of Catchment Transit Times to Rainfall Variability Under Present and Future Climates. <i>Water Resources Research</i> , 2017, 53, 10231-10256.	1.7	59
86	The impact of urbanization on subsurface flow paths – A paired-catchment isotopic study. <i>Journal of Hydrology</i> , 2018, 561, 413-426.	2.3	26
87	How Aquifer Characteristics of a Watershed Affect Transit Time Distributions of Groundwater. <i>Ground Water</i> , 2018, 56, 517-520.	0.7	7
88	Channel Filtering Generates Multifractal Solute Signals. <i>Geophysical Research Letters</i> , 2018, 45, 11,722.	1.5	14
89	Using geochemistry to understand water sources and transit times in headwater streams of a temperate rainforest. <i>Applied Geochemistry</i> , 2018, 99, 1-12.	1.4	19
90	Assessment of hydrological pathways in East African montane catchments under different land use. <i>Hydrology and Earth System Sciences</i> , 2018, 22, 4981-5000.	1.9	30
91	Controls of Chloride Loading and Impairment at the River Network Scale in New England. <i>Journal of Environmental Quality</i> , 2018, 47, 839-847.	1.0	11

#	ARTICLE	IF	CITATIONS
92	Water ages in the critical zone of long-term experimental sites in northern latitudes. <i>Hydrology and Earth System Sciences</i> , 2018, 22, 3965-3981.	1.9	37
93	Spatial Patterns of Water Age: Using Young Water Fractions to Improve the Characterization of Transit Times in Contrasting Catchments. <i>Water Resources Research</i> , 2018, 54, 4767-4784.	1.7	52
94	Time-Varying Storage-Water Age Relationships in a Catchment With a Mediterranean Climate. <i>Water Resources Research</i> , 2018, 54, 3988-4008.	1.7	47
95	On the Use of Storage Selection Functions to Assess Time-Variant Travel Times in Lakes. <i>Water Resources Research</i> , 2018, 54, 5163-5185.	1.7	12
96	Effects of Drainage and Subsequent Restoration on Peatland Hydrological Processes at Catchment Scale. <i>Water Resources Research</i> , 2018, 54, 4479-4497.	1.7	13
97	Regionalization of Groundwater Residence Time Using Metamodeling. <i>Water Resources Research</i> , 2018, 54, 6357-6373.	1.7	24
98	Identifying the hydrological behavior of a complex karst system using stable isotopes. <i>Journal of Hydrology</i> , 2019, 577, 123956.	2.3	45
99	Identification of groundwater mean transit times of precipitation and riverbank infiltration by two-component lumped parameter models. <i>Hydrological Processes</i> , 2019, 33, 3098-3118.	1.1	1
100	An Evaluation of Catchment Transit Time Model Parameters: A Comparative Study between Two Stable Isotopes of Water. <i>Geosciences (Switzerland)</i> , 2019, 9, 318.	1.0	2
101	Land Surface Processes Create Patterns in Atmospheric Residence Time of Water. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019, 124, 583-600.	1.2	7
102	Characterizing the Fluxes and Age Distribution of Soil Water, Plant Water, and Deep Percolation in a Model Tropical Ecosystem. <i>Water Resources Research</i> , 2019, 55, 3307-3327.	1.7	73
103	â€˜Teflon Basinâ€™ or Not? A High-Elevation Catchment Transit Time Modeling Approach. <i>Hydrology</i> , 2019, 6, 92.	1.3	5
104	Hydrology at Aberdeen â€˜ thinking about water locally and globally. <i>Scottish Geographical Journal</i> , 2019, 135, 267-286.	0.4	1
105	Streamwater ages in nested, seasonally cold Canadian watersheds. <i>Hydrological Processes</i> , 2019, 33, 495-511.	1.1	22
106	Variability of transit time distributions with climate and topography: A modelling approach. <i>Journal of Hydrology</i> , 2019, 569, 37-50.	2.3	18
107	Using isotopes to understand the evolution of water ages in disturbed mixed land-use catchments. <i>Hydrological Processes</i> , 2020, 34, 972-990.	1.1	17
108	Contrasting storage-flux-age interactions revealed by catchment inter-comparison using a tracer-aided runoff model. <i>Journal of Hydrology</i> , 2020, 590, 125226.	2.3	7
109	Constraining water age dynamics in a south-eastern Australian catchment using an age-ranked storage and stable isotope approach. <i>Hydrological Processes</i> , 2020, 34, 4384-4403.	1.1	8

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110	Characterizing the variability of transit time distributions and young water fractions in karst catchments using flux tracking. <i>Hydrological Processes</i> , 2020, 34, 3156-3174.	1.1	16
111	Catchment storage and residence time in a periodically irrigated watershed. <i>Hydrological Processes</i> , 2020, 34, 3028-3044.	1.1	9
112	Travel times for snowmelt-dominated headwater catchments: Influences of wetlands and forest harvesting, and linkages to stream water quality. <i>Hydrological Processes</i> , 2020, 34, 2154-2175.	1.1	15
113	On the shape of forward transit time distributions in low-order catchments. <i>Hydrology and Earth System Sciences</i> , 2020, 24, 2895-2920.	1.9	12
114	The potential of groundwater as a geochemical archive of past environments. <i>Chemical Geology</i> , 2020, 539, 119505.	1.4	3
115	Modifying the Jackson index to quantify the relationship between geology, landscape structure, and water transit time in steep wet headwaters. <i>Hydrological Processes</i> , 2020, 34, 2139-2150.	1.1	8
116	Rainstorm Magnitude Likely Regulates Event Water Fraction and Its Transit Time in Mesoscale Mountainous Catchments: Implication for Modelling Parameterization. <i>Water (Switzerland)</i> , 2020, 12, 1169.	1.2	1
117	Surface water and groundwater: unifying conceptualization and quantification of the two "water worlds". <i>Hydrology and Earth System Sciences</i> , 2020, 24, 1831-1858.	1.9	16
118	Three-Dimensional Distribution of Groundwater Residence Time Metrics in the Glaciated United States Using Metamodels Trained on General Numerical Simulation Models. <i>Water Resources Research</i> , 2021, 57, e2020WR027335.	1.7	21
119	Assessing the contribution of groundwater to catchment travel time distributions through integrating conceptual flux tracking with explicit Lagrangian particle tracking. <i>Advances in Water Resources</i> , 2021, 149, 103849.	1.7	11
120	Effects of streamflow isotope sampling strategies on the calibration of a tracer-aided rainfall-runoff model. <i>Hydrological Processes</i> , 2021, 35, e14223.	1.1	13
121	Age-ranked hydrological budgets and a travel time description of catchment hydrology. <i>Hydrology and Earth System Sciences</i> , 2016, 20, 4929-4947.	1.9	14
130	Snow drought reduces water transit times in headwater streams. <i>Hydrological Processes</i> , 2021, 35, .	1.1	12
131	Travel time-based modelling of nitrate reduction in a fractured limestone aquifer by pyrite and iron carbonates under pore size limitation. <i>Journal of Contaminant Hydrology</i> , 2022, 248, 103983.	1.6	2
132	Assessing land use influences on isotopic variability and stream water ages in urbanising rural catchments. <i>Isotopes in Environmental and Health Studies</i> , 2022, 58, 277-300.	0.5	4
133	Quantifying multi-year hydrological memory with Catchment Forgetting Curves. <i>Hydrology and Earth System Sciences</i> , 2022, 26, 2715-2732.	1.9	9
134	Reclaimed Water Reuse for Groundwater Recharge: A Review of Hot Spots and Hot Moments in the Hyporheic Zone. <i>Water (Switzerland)</i> , 2022, 14, 1936.	1.2	3
135	Sources and mean transit times of stream water in an intermittent river system: the upper Wimmera River, southeast Australia. <i>Hydrology and Earth System Sciences</i> , 2022, 26, 4497-4513.	1.9	1

#	ARTICLE	IF	CITATIONS
136	Flood patterns in a catchment with mixed bedrock geology and a hilly landscape: identification of flashy runoff contributions during storm events. <i>Hydrology and Earth System Sciences</i> , 2022, 26, 5185-5206.	1.9	0
137	Factors controlling the temporal variability of streamflow transit times in tropical alpine catchments. <i>Journal of Hydrology</i> , 2023, 617, 128990.	2.3	0
138	Seasonal variation of transit time distribution and associated hydrological processes in a Moso bamboo watershed under the East Asian monsoon climate. <i>Journal of Hydrology</i> , 2023, 617, 128912.	2.3	5
139	Using stable water isotopes to evaluate water flow and nonpoint source pollutant contributions in three southern Ontario agricultural headwater streams. <i>Hydrological Processes</i> , 2023, 37, .	1.1	4