Jonathan F Donges

List of Publications by Year
in descending order

100 papers	9,452 citations	81900 39 h-index	42399 92 g-index
151 all docs	151 docs citations	151 times ranked	8717 citing authors

#	Article	IF	Citations
1	Social tipping processes towards climate action: A conceptual framework. Ecological Economics, 2022, 192, 107242.	5.7	47
2	A modelerâ€™s guide to studying the resilience of social-technical-environmental systems. Environmental Research Letters, 2022, 17, 055005.	5.2	6
3	Differential Imprints of Distinct ENSO Flavors in Global Patterns of Very Low and High Seasonal Precipitation. Frontiers in Climate, 2021, 3, .	2.8	10
4	The tipping points and early warning indicators for Pine Island Glacier, West Antarctica. Cryosphere, 2021, 15, 1501-1516.	3.9	42
5	Stewardship of global collective behavior. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	129
6	Interacting tipping elements increase risk of climate domino effects under global warming. Earth System Dynamics, 2021, 12, 601-619.	7.1	227
7	Modelling nonlinear dynamics of interacting tipping elements on complex networks: the PyCascades package. European Physical Journal: Special Topics, 2021, 230, 3163-3176.	2.6	8
8	Past abrupt changes, tipping points and cascading impacts in the Earth system. Nature Geoscience, 2021, 14, 550-558.	12.9	62
9	Doseâ€“response functions and surrogate models for exploring social contagion in the Copenhagen Networks Study. European Physical Journal: Special Topics, 2021, 230, 1-24.	2.6	2
10	Complex networks of interacting stochastic tipping elements: Cooperativity of phase separation in the large-system limit. Physical Review E, 2021, 104, 044301.	2.1	0
11	Ten new insights in climate science 2021: a horizon scan. Global Sustainability, 2021, 4, .	3.3	26
12	What do we mean, â€˜tipping cascadeâ€™?. Environmental Research Letters, 2021, 16, 125011.	5.2	19
13	Taxonomies for structuring models for Worldâ€“Earth systems analysis of the Anthropocene: subsystems, their interactions and socialâ€“ecological feedback loops. Earth System Dynamics, 2021, 12, 1115-1137.	7.1	15
14	Nonlinear time series analysis of palaeoclimate proxy records. Quaternary Science Reviews, 2021, 274, 107245.	3.0	10
15	The microdynamics of spatial polarization: A model and an application to survey data from Ukraine. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	13
16	Human agency in the Anthropocene. Ecological Economics, 2020, 167, 106463.	5.7	53
17	Amplified Rossby waves enhance risk of concurrent heatwaves in major breadbasket regions. Nature Climate Change, 2020, 10, 48-53.	18.8	164
18	Human impacts on planetary boundaries amplified by Earth system interactions. Nature Sustainability, 2020, 3, 119-128.	23.7	217

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19	A network-based microfoundation of Granovetterâ€™s threshold model for social tipping. Scientific Reports, 2020, 10, 11202.	3.3	23
20	Global warming due to loss of large ice masses and Arctic summer sea ice. Nature Communications, 2020, 11, 5177.	12.8	67
21	The hysteresis of the Antarctic Ice Sheet. Nature, 2020, 585, 538-544.	27.8	115
22	Emergence of cascading dynamics in interacting tipping elements of ecology and climate. Royal Society Open Science, 2020, 7, 200599.	2.4	37
23	Reply to Smith et al.: Social tipping dynamics in a world constrained by conflicting interests. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 10631-10632.	7.1	8
24	Grounding Social Foundations for Integrated Assessment Models of Climate Change. Earth's Future, 2020, 8, e2020EF001573.	6.3	11
25	Coherent response of the Indian Monsoon Rainfall to Atlantic Multi-decadal Variability over the last 2000 years. Scientific Reports, 2020, 10, 1302.	3.3	43
26	Social tipping dynamics for stabilizing Earthâ€™s climate by 2050. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 2354-2365.	7.1	394
27	Dynamics of tipping cascades on complex networks. Physical Review E, 2020, 101, 042311.	2.1	24
28	Multi-method evidence for when and how climate-related disasters contribute to armed conflict risk. Global Environmental Change, 2020, 62, 102063.	7.8	88
29	How motifs condition critical thresholds for tipping cascades in complex networks: Linking micro- to macro-scales. Chaos, 2020, 30, 043129.	2.5	18
30	Earth system data cubes unravel global multivariate dynamics. Earth System Dynamics, 2020, 11, 201-234.	7.1	59
31	Caring for the future can turn tragedy into comedy for long-term collective action under risk of collapse. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 12915-12922.	7.1	48
32	Basin stability and limit cycles in a conceptual model for climate tipping cascades. New Journal of Physics, 2020, 22, 123031.	2.9	13
33	Earth system modeling with endogenous and dynamic human societies: the copan:CORE open Worldâ€“Earth modeling framework. Earth System Dynamics, 2020, 11, 395-413.	7.1	32
34	Matching scope, purpose and uses of planetary boundaries science. Environmental Research Letters, 2019, 14, 073005.	5.2	32
35	Deterministic limit of temporal difference reinforcement learning for stochastic games. Physical Review E, 2019, 99, 043305.	2.1	31
36	Can Intensification of Cattle Ranching Reduce Deforestation in the Amazon? Insights From an Agent-based Social-Ecological Model. Ecological Economics, 2019, 159, 198-211.	5.7	28

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37	Achieving the 17 Sustainable Development Goals within 9 planetary boundaries. Global Sustainability, 2019, 2, .	3.3	79
38	Potential feedbacks between loss of biosphere integrity and climate change. Global Sustainability, 2019, 2, .	3.3	11
39	Deep reinforcement learning in World-Earth system models to discover sustainable management strategies. Chaos, 2019, 29, 123122.	2.5	15
40	The physics of governance networks: critical transitions in contagion dynamics on multilayer adaptive networks with application to the sustainable use of renewable resources. European Physical Journal: Special Topics, 2019, 228, 2357-2369.	2.6	14
41	Complex network approaches to nonlinear time series analysis. Physics Reports, 2019, 787, 1-97.	25.6	370
42	Defining tipping points for social-ecological systems scholarshipâ€"an interdisciplinary literature review. Environmental Research Letters, 2018, 13, 033005.	5.2	161
43	Trajectories of the Earth System in the Anthropocene. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 8252-8259.	7.1	1,832
44	Analytically tractable climateâ€"carbon cycle feedbacks under 21st century anthropogenic forcing. Earth System Dynamics, 2018, 9, 507-523.	7.1	9
45	Temporal organization of magnetospheric fluctuations unveiled by recurrence patterns in the Dst index. Chaos, 2018, 28, 085716.	2.5	14
46	A Thought Experiment on Sustainable Management of the Earth System. Sustainability, 2018, 10, 1947.	3.2	6
47	When optimization for governing human-environment tipping elements is neither sustainable nor safe. Nature Communications, 2018, 9, 2354.	12.8	31
48	The technosphere in Earth System analysis: A coevolutionary perspective. Infrastructure Asset Management, 2017, 4, 23-33.	1.6	30
49	Edge anisotropy and the geometric perspective on flow networks. Chaos, 2017, 27, 035802.	2.5	8
50	A perturbation-theoretic approach to Lagrangian flow networks. Chaos, 2017, 27, 035813.	2.5	5
51	Mapping and discrimination of networks in the complexity-entropy plane. Physical Review E, 2017, 96, 042304.	2.1	32
52	Closing the loop: Reconnecting human dynamics to Earth System science. Infrastructure Asset Management, 2017, 4, 151-157.	1.6	48
53	Zealotry effects on opinion dynamics in the adaptive voter model. Physical Review E, 2017, 96, 052315.	2.1	22
54	Hierarchical structures in Northern Hemispheric extratropical winter oceanâ€"atmosphere interactions. International Journal of Climatology, 2017, 37, 3821-3836.	3.5	18

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55	From Math to Metaphors and Back Again: Social-Ecological Resilience from a Multi-Agent-Environment Perspective. Gaia, 2017, 26, 182-190.	0.7	10
56	A matrix clustering method to explore patterns of land-cover transitions in satellite-derived maps of the Brazilian Amazon. Nonlinear Processes in Geophysics, 2017, 24, 113-123.	1.3	15
57	Towards representing human behavior and decision making in Earth system models â€“ an overview of techniques and approaches. Earth System Dynamics, 2017, 8, 977-1007.	7.1	57
58	Sustainable use of renewable resources in a stylized socialâ€“ecological network model under heterogeneous resource distribution. Earth System Dynamics, 2017, 8, 255-264.	7.1	28
59	Detecting impacts of extreme events with ecological inÂsitu monitoring networks. Biogeosciences, 2017, 14, 4255-4277.	3.3	35
60	Collateral transgression of planetary boundaries due to climate engineering by terrestrial carbon dioxide removal. Earth System Dynamics, 2016, 7, 783-796.	7.1	21
61	Impact of temperature and precipitation extremes on the flowering dates of four German wildlife shrub species. Biogeosciences, 2016, 13, 5541-5555.	3.3	41
62	Topology of sustainable management of dynamical systems with desirable states: from defining planetary boundaries to safe operating spaces in the Earth system. Earth System Dynamics, 2016, 7, 21-50.	7.1	30
63	Using Causal Effect Networks to Analyze Different Arctic Drivers of Midlatitude Winter Circulation. Journal of Climate, 2016, 29, 4069-4081.	3.2	197
64	Armed-conflict risks enhanced by climate-related disasters in ethnically fractionalized countries. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 9216-9221.	7.1	280
65	Constrained basin stability for studying transient phenomena in dynamical systems. Physical Review E, 2016, 93, 042205.	2.1	20
66	Spatial network surrogates for disentangling complex system structure from spatial embedding of nodes. Physical Review E, 2016, 93, 042308.	2.1	30
67	A climate networkâ€based index to discriminate different types of El NiÃ±o and La NiÃ±a. Geophysical Research Letters, 2016, 43, 7176-7185.	4.0	47
68	Clustered marginalization of minorities during social transitions induced by co-evolution of behaviour and network structure. Scientific Reports, 2016, 6, 30790.	3.3	14
69	Event coincidence analysis for quantifying statistical interrelationships between event time series. European Physical Journal: Special Topics, 2016, 225, 471-487.	2.6	93
70	Complex Network Techniques for Climatological Data Analysis. , 2016, , 159-183.		16
71	Macroscopic description of complex adaptive networks coevolving with dynamic node states. Physical Review E, 2015, 91, 052801.	2.1	29
72	Unified functional network and nonlinear time series analysis for complex systems science: The<tt>pyunicorn</tt>package. Chaos, 2015, 25, 113101.	2.5	84

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73	Review: visual analytics of climate networks. Nonlinear Processes in Geophysics, 2015, 22, 545-570.	1.3	23
74	Coincidences of climate extremes and anomalous vegetation responses: comparing tree ring patterns to simulated productivity. Biogeosciences, 2015, 12, 373-385.	3.3	75
75	Global terrestrial water storage connectivity revealed using complex climate network analyses. Nonlinear Processes in Geophysics, 2015, 22, 433-446.	1.3	8
76	Non-linear regime shifts in Holocene Asian monsoon variability: potential impacts on cultural change and migratory patterns. Climate of the Past, 2015, 11, 709-741.	3.4	55
77	How complex climate networks complement eigen techniques for the statistical analysis of climatological data. Climate Dynamics, 2015, 45, 2407-2424.	3.8	41
78	Identifying causal gateways and mediators in complex spatio-temporal systems. Nature Communications, 2015, 6, 8502.	12.8	207
79	Complex Network Analysis of Recurrences. Understanding Complex Systems, 2015, , 101-163.	0.6	8
80	Complex networks for climate model evaluation with application to statistical versus dynamical modeling of South American climate. Climate Dynamics, 2015, 44, 1567-1581.	3.8	28
81	Local Difference Measures between Complex Networks for Dynamical System Model Evaluation. PLoS ONE, 2015, 10, e0118088.	2.5	6
82	Publisher's Note: Disentangling different types of El NiÃ±o episodes by evolving climate network analysis [Phys. Rev. E88, 052807 (2013)]. Physical Review E, 2014, 89, .	2.1	0
83	On the importance of cascading moisture recycling in South America. Atmospheric Chemistry and Physics, 2014, 14, 13337-13359.	4.9	181
84	Detection of coupling directions with intersystem recurrence networks. IEICE Proceeding Series, 2014, 1, 231-234.	0.0	1
85	Identifying nonlinearities by time-reversal asymmetry of vertex properties in visibility graphs. IEICE Proceeding Series, 2014, 1, 435-438.	0.0	0
86	Testing time series irreversibility using complex network methods. Europhysics Letters, 2013, 102, 29902.	2.0	6
87	Disentangling different types of El NiÃ±o episodes by evolving climate network analysis. Physical Review E, 2013, 88, 052807.	2.1	79
88	Analytical framework for recurrence network analysis of time series. Physical Review E, 2012, 85, 046105.	2.1	96
89	Geometric detection of coupling directions by means of inter-system recurrence networks. Physics Letters, Section A: General, Atomic and Solid State Physics, 2012, 376, 3504-3513.	2.1	87
90	Visibility graph analysis of geophysical time series: Potentials and possible pitfalls. Acta Geophysica, 2012, 60, 589-623.	2.0	101

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91	Information Visualization in Climate Research. , 2011, , .		30
92	RECURRENCE-BASED TIME SERIES ANALYSIS BY MEANS OF COMPLEX NETWORK METHODS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2011, 21, 1019-1046.	1.7	350
93	Investigating the topology of interacting networks. European Physical Journal B, 2011, 84, 635-651.	1.5	165
94	Nonlinear detection of paleoclimate-variability transitions possibly related to human evolution. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 20422-20427.	7.1	208
95	Ambiguities in recurrence-based complex network representations of time series. Physical Review E, 2010, 81, 015101.	2.1	113
96	Recurrence networksâ€"a novel paradigm for nonlinear time series analysis. New Journal of Physics, 2010, 12, 033025.	2.9	489
97	Identifying complex periodic windows in continuous-time dynamical systems using recurrence-based methods. Chaos, 2010, 20, 043130.	2.5	65
98	Complex network approach for recurrence analysis of time series. Physics Letters, Section A: General, Atomic and Solid State Physics, 2009, 373, 4246-4254.	2.1	501
99	Complex networks in climate dynamics. European Physical Journal: Special Topics, 2009, 174, 157-179.	2.6	416
100	Detecting contagious spreading of urban innovations on the global city network. European Physical Journal: Special Topics, 0, , 1.	2.6	3