

Gordan B Bonan

List of Publications by Year in descending order

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112
papers

34,759
citations

28736

57
h-index

64407

83
g-index

125
all docs

125
docs citations

125
times ranked

38650
citing authors

#	ARTICLE	IF	CITATIONS
1	Increasing the spatial and temporal impact of ecological research: A roadmap for integrating a novel terrestrial process into an Earth system model. <i>Global Change Biology</i> , 2022, 28, 665-684.	4.2	27
2	Impacts of a revised surface roughness parameterization in the Community Land Model 5.1. <i>Geoscientific Model Development</i> , 2022, 15, 2365-2393.	1.3	9
3	The signature of internal variability in the terrestrial carbon cycle. <i>Environmental Research Letters</i> , 2021, 16, 034022.	2.2	7
4	Moving beyond the incorrect but useful paradigm: reevaluating big-leaf and multilayer plant canopies to model biosphere-atmosphere fluxes – a review. <i>Agricultural and Forest Meteorology</i> , 2021, 306, 108435.	1.9	64
5	Influence of Vertical Heterogeneities in the Canopy Microenvironment on Interannual Variability of Carbon Uptake in Temperate Deciduous Forests. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2020, 125, e2020JG005658.	1.3	10
6	Beyond Static Benchmarking: Using Experimental Manipulations to Evaluate Land Model Assumptions. <i>Global Biogeochemical Cycles</i> , 2019, 33, 1289-1309.	1.9	59
7	Separating the Impact of Individual Land Surface Properties on the Terrestrial Surface Energy Budget in both the Coupled and Uncoupled Land–Atmosphere System. <i>Journal of Climate</i> , 2019, 32, 5725-5744.	1.2	50
8	The Community Land Model Version 5: Description of New Features, Benchmarking, and Impact of Forcing Uncertainty. <i>Journal of Advances in Modeling Earth Systems</i> , 2019, 11, 4245-4287.	1.3	692
9	Model Structure and Climate Data Uncertainty in Historical Simulations of the Terrestrial Carbon Cycle (1850–2014). <i>Global Biogeochemical Cycles</i> , 2019, 33, 1310-1326.	1.9	53
10	Simulating surface energy fluxes using the variable-resolution Community Earth System Model (VR-CESM). <i>Theoretical and Applied Climatology</i> , 2019, 138, 115-133.	1.3	9
11	Terrestrial Biosphere Models. , 2019, , 1-24.		4
12	Quantitative Description of Ecosystems. , 2019, , 25-39.		0
13	Fundamentals of Energy and Mass Transfer. , 2019, , 40-52.		0
14	Mathematical Formulation of Biological Flux Rates. , 2019, , 53-63.		0
15	Soil Temperature. , 2019, , 64-79.		1
16	Turbulent Fluxes and Scalar Profiles in the Surface Layer. , 2019, , 80-100.		2
17	Surface Energy Fluxes. , 2019, , 101-114.		1
18	Soil Moisture. , 2019, , 115-133.		0

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19	Hydrologic Scaling and Spatial Heterogeneity. , 2019, , 134-151.		0
20	Leaf Temperature and Energy Fluxes. , 2019, , 152-166.		0
21	Leaf Photosynthesis. , 2019, , 167-188.		2
22	Stomatal Conductance. , 2019, , 189-212.		1
23	Plant Hydraulics. , 2019, , 213-227.		2
24	Radiative Transfer. , 2019, , 228-259.		1
25	Plant Canopies. , 2019, , 260-279.		0
26	Scalar Canopy Profiles. , 2019, , 280-300.		0
27	Biogeochemical Models. , 2019, , 301-321.		0
28	Soil Biogeochemistry. , 2019, , 322-343.		0
29	Vegetation Demography. , 2019, , 344-364.		1
30	Canopy Chemistry. , 2019, , 365-380.		0
31	High predictability of terrestrial carbon fluxes from an initialized decadal prediction system. Environmental Research Letters, 2019, 14, 124074.	2.2	19
32	Climate, ecosystems, and planetary futures: The challenge to predict life in Earth system models. Science, 2018, 359, .	6.0	397
33	The role of surface roughness, albedo, and Bowen ratio on ecosystem energy balance in the Eastern United States. Agricultural and Forest Meteorology, 2018, 249, 367-376.	1.9	96
34	A Comparison of the Diel Cycle of Modeled and Measured Latent Heat Flux During the Warm Season in a Colorado Subalpine Forest. Journal of Advances in Modeling Earth Systems, 2018, 10, 617-651.	1.3	19
35	Carbon cycle confidence and uncertainty: Exploring variation among soil biogeochemical models. Global Change Biology, 2018, 24, 1563-1579.	4.2	122
36	Modeling canopy-induced turbulence in the Earth system: a unified parameterization of turbulent exchange within plant canopies and the roughness sublayer (CLM-ml v0). Geoscientific Model Development, 2018, 11, 1467-1496.	1.3	98

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37	Triose phosphate limitation in photosynthesis models reduces leaf photosynthesis and global terrestrial carbon storage. <i>Environmental Research Letters</i> , 2018, 13, 074025.	2.2	56
38	Comparing optimal and empirical stomatal conductance models for application in Earth system models. <i>Global Change Biology</i> , 2018, 24, 5708-5723.	4.2	75
39	Cover Crops May Cause Winter Warming in Snow-Covered Regions. <i>Geophysical Research Letters</i> , 2018, 45, 9889-9897.	1.5	22
40	Changes in Wood Biomass and Crop Yields in Response to Projected CO ₂ , O ₃ , Nitrogen Deposition, and Climate. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2018, 123, 3262-3282.	1.3	15
41	Biophysical consequences of photosynthetic temperature acclimation for climate. <i>Journal of Advances in Modeling Earth Systems</i> , 2017, 9, 536-547.	1.3	24
42	A roadmap for improving the representation of photosynthesis in Earth system models. <i>New Phytologist</i> , 2017, 213, 22-42.	3.5	365
43	Stomatal Function across Temporal and Spatial Scales: Deep-Time Trends, Land-Atmosphere Coupling and Global Models. <i>Plant Physiology</i> , 2017, 174, 583-602.	2.3	119
44	Reducing uncertainty in projections of terrestrial carbon uptake. <i>Environmental Research Letters</i> , 2017, 12, 044020.	2.2	84
45	Forests, Climate, and Public Policy: A 500-Year Interdisciplinary Odyssey. <i>Annual Review of Ecology, Evolution, and Systematics</i> , 2016, 47, 97-121.	3.8	43
46	Managing uncertainty in soil carbon feedbacks to climate change. <i>Nature Climate Change</i> , 2016, 6, 751-758.	8.1	491
47	Evaluating the Climate Effects of Reforestation in New England Using a Weather Research and Forecasting (WRF) Model Multiphysics Ensemble. <i>Journal of Climate</i> , 2016, 29, 5141-5156.	1.2	24
48	On the development of a coupled regional climate-vegetation model RCM-CLM-CN-DV and its validation in Tropical Africa. <i>Climate Dynamics</i> , 2016, 46, 515-539.	1.7	53
49	Optimizing Available Network Resources to Address Questions in Environmental Biogeochemistry. <i>BioScience</i> , 2016, 66, 317-326.	2.2	20
50	Temperature acclimation of photosynthesis and respiration: A key uncertainty in the carbon cycle-climate feedback. <i>Geophysical Research Letters</i> , 2015, 42, 8624-8631.	1.5	160
51	Representing life in the Earth system with soil microbial functional traits in the MIMICS model. <i>Geoscientific Model Development</i> , 2015, 8, 1789-1808.	1.3	154
52	Effects of model structural uncertainty on carbon cycle projections: biological nitrogen fixation as a case study. <i>Environmental Research Letters</i> , 2015, 10, 044016.	2.2	109
53	Terrestrial Ecosystems and Earth System Models. , 2015, , 453-482.		2
54	Modeling stomatal conductance in the earth system: linking leaf water-use efficiency and water transport along the soil-plant-atmosphere continuum. <i>Geoscientific Model Development</i> , 2014, 7, 2193-2222.	1.3	293

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55	Integrating microbial physiology and physio-chemical principles in soils with the Microbial-Mineral Carbon Stabilization (MIMICS) model. <i>Biogeosciences</i> , 2014, 11, 3899-3917.	1.3	243
56	The Community Land Model underestimates land-use CO ₂ emissions by neglecting soil disturbance from cultivation. <i>Geoscientific Model Development</i> , 2014, 7, 613-620.	1.3	49
57	Connecting mathematical ecosystems, real-world ecosystems, and climate science. <i>New Phytologist</i> , 2014, 202, 731-733.	3.5	38
58	Preindustrial-Control and Twentieth-Century Carbon Cycle Experiments with the Earth System Model CESM1(BGC). <i>Journal of Climate</i> , 2014, 27, 8981-9005.	1.2	156
59	The emerging anthropogenic signal in land-atmosphere carbon-cycle coupling. <i>Nature Climate Change</i> , 2014, 4, 796-800.	8.1	26
60	Evaluating soil biogeochemistry parameterizations in Earth system models with observations. <i>Global Biogeochemical Cycles</i> , 2014, 28, 211-222.	1.9	76
61	Impacts of human alteration of the nitrogen cycle in the US on radiative forcing. <i>Biogeochemistry</i> , 2013, 114, 25-40.	1.7	51
62	Carbon Concentration and Carbon Climate Feedbacks in CMIP5 Earth System Models. <i>Journal of Climate</i> , 2013, 26, 5289-5314.	1.2	576
63	Evaluating litter decomposition in earth system models with long-term litterbag experiments: an example using the Community Land Model version 4 (CLM4). <i>Global Change Biology</i> , 2013, 19, 957-974.	4.2	164
64	Canadian climate aberration. <i>Nature Geoscience</i> , 2013, 6, 21-22.	5.4	0
65	Insights into mechanisms governing forest carbon response to nitrogen deposition: a model-data comparison using observed responses to nitrogen addition. <i>Biogeosciences</i> , 2013, 10, 3869-3887.	1.3	83
66	The effect of vertically resolved soil biogeochemistry and alternate soil C and N models on C dynamics of CLM4. <i>Biogeosciences</i> , 2013, 10, 7109-7131.	1.3	359
67	Simulating the Biogeochemical and Biogeophysical Impacts of Transient Land Cover Change and Wood Harvest in the Community Climate System Model (CCSM4) from 1850 to 2100. <i>Journal of Climate</i> , 2012, 25, 3071-3095.	1.2	255
68	Reconciling leaf physiological traits and canopy flux data: Use of the TRY and FLUXNET databases in the Community Land Model version 4. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	169
69	Determining Robust Impacts of Land-Use-Induced Land Cover Changes on Surface Climate over North America and Eurasia: Results from the First Set of LUCID Experiments. <i>Journal of Climate</i> , 2012, 25, 3261-3281.	1.2	313
70	The CCSM4 Land Simulation, 1850-2005: Assessment of Surface Climate and New Capabilities. <i>Journal of Climate</i> , 2012, 25, 2240-2260.	1.2	276
71	Interactive Crop Management in the Community Earth System Model (CESM1): Seasonal Influences on Land-Atmosphere Fluxes. <i>Journal of Climate</i> , 2012, 25, 4839-4859.	1.2	140
72	Ozone exposure causes a decoupling of conductance and photosynthesis: implications for the Ball-Berry stomatal conductance model. <i>Oecologia</i> , 2012, 169, 651-659.	0.9	63

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73	Improving canopy processes in the Community Land Model version 4 (CLM4) using global flux fields empirically inferred from FLUXNET data. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	522
74	Parameterization improvements and functional and structural advances in Version 4 of the Community Land Model. <i>Journal of Advances in Modeling Earth Systems</i> , 2011, 3, .	1.3	666
75	Parameterization improvements and functional and structural advances in Version 4 of the Community Land Model. <i>Journal of Advances in Modeling Earth Systems</i> , 2011, 3, n/a-n/a.	1.3	367
76	An examination of urban heat island characteristics in a global climate model. <i>International Journal of Climatology</i> , 2011, 31, 1848-1865.	1.5	130
77	Forests and Global Change. <i>Ecological Studies</i> , 2011, , 711-725.	0.4	4
78	Anthropogenic land cover changes in a GCM with surface albedo changes based on MODIS data. <i>International Journal of Climatology</i> , 2010, 30, 2105-2117.	1.5	44
79	Recent decline in the global land evapotranspiration trend due to limited moisture supply. <i>Nature</i> , 2010, 467, 951-954.	13.7	1,771
80	Changes in Arctic vegetation amplify high-latitude warming through the greenhouse effect. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 1295-1300.	3.3	228
81	Quantifying carbon–nitrogen feedbacks in the Community Land Model (CLM4). <i>Geophysical Research Letters</i> , 2010, 37, .	1.5	167
82	Terrestrial Gross Carbon Dioxide Uptake: Global Distribution and Covariation with Climate. <i>Science</i> , 2010, 329, 834-838.	6.0	2,056
83	Effects of white roofs on urban temperature in a global climate model. <i>Geophysical Research Letters</i> , 2010, 37, .	1.5	169
84	Parameterization of Urban Characteristics for Global Climate Modeling. <i>Annals of the American Association of Geographers</i> , 2010, 100, 848-865.	3.0	128
85	Systematic assessment of terrestrial biogeochemistry in coupled climate–carbon models. <i>Global Change Biology</i> , 2009, 15, 2462-2484.	4.2	324
86	Uncertainties in climate responses to past land cover change: First results from the LUCID intercomparison study. <i>Geophysical Research Letters</i> , 2009, 36, .	1.5	444
87	Fertilizing change. <i>Nature Geoscience</i> , 2008, 1, 645-646.	5.4	24
88	Use of FLUXNET in the Community Land Model development. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	210
89	Improvements to the Community Land Model and their impact on the hydrological cycle. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	649
90	Forests and Climate Change: Forcings, Feedbacks, and the Climate Benefits of Forests. <i>Science</i> , 2008, 320, 1444-1449.	6.0	4,344

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91	An Urban Parameterization for a Global Climate Model. Part II: Sensitivity to Input Parameters and the Simulated Urban Heat Island in Offline Simulations. <i>Journal of Applied Meteorology and Climatology</i> , 2008, 47, 1061-1076.	0.6	95
92	An Urban Parameterization for a Global Climate Model. Part I: Formulation and Evaluation for Two Cities. <i>Journal of Applied Meteorology and Climatology</i> , 2008, 47, 1038-1060.	0.6	232
93	Protecting climate with forests. <i>Environmental Research Letters</i> , 2008, 3, 044006.	2.2	313
94	Present-day springtime high-latitude surface albedo as a predictor of simulated climate sensitivity. <i>Geophysical Research Letters</i> , 2007, 34, .	1.5	20
95	The Partitioning of Evapotranspiration into Transpiration, Soil Evaporation, and Canopy Evaporation in a GCM: Impacts on Land-Atmosphere Interaction. <i>Journal of Hydrometeorology</i> , 2007, 8, 862-880.	0.7	399
96	The Community Climate System Model Version 3 (CCSM3). <i>Journal of Climate</i> , 2006, 19, 2122-2143.	1.2	2,075
97	The Community Land Model and Its Climate Statistics as a Component of the Community Climate System Model. <i>Journal of Climate</i> , 2006, 19, 2302-2324.	1.2	320
98	The Importance of Land-Cover Change in Simulating Future Climates. <i>Science</i> , 2005, 310, 1674-1678.	6.0	930
99	Global Consequences of Land Use. <i>Science</i> , 2005, 309, 570-574.	6.0	9,451
100	Effects of land use change on North American climate: impact of surface datasets and model biogeophysics. <i>Climate Dynamics</i> , 2004, 23, 117-132.	1.7	91
101	Soil feedback drives the mid-Holocene North African monsoon northward in fully coupled CCSM2 simulations with a dynamic vegetation model. <i>Climate Dynamics</i> , 2004, 23, 791-802.	1.7	122
102	A dynamic global vegetation model for use with climate models: concepts and description of simulated vegetation dynamics. <i>Global Change Biology</i> , 2003, 9, 1543-1566.	4.2	335
103	Assessment of global climate model land surface albedo using MODIS data. <i>Geophysical Research Letters</i> , 2003, 30, .	1.5	92
104	The Land Surface Climatology of the Community Land Model Coupled to the NCAR Community Climate Model*. <i>Journal of Climate</i> , 2002, 15, 3123-3149.	1.2	583
105	Land-atmosphere CO ₂ exchange simulated by a land surface process model coupled to an atmospheric general circulation model. <i>Journal of Geophysical Research</i> , 1995, 100, 2817.	3.3	254
106	Soil Biogeochemistry. , 0, , 358-375.		0
107	Landscapes and Disturbances. , 0, , 400-421.		0
108	Anthropogenic Land Use and Land-Cover Change. , 0, , 523-562.		0

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109	Carbon Cycleâ€“Climate Feedbacks. , 0 , 563-593.		0
110	Climate Intervention and Geoengineering. , 0 , 652-672.		0
111	Ecosystems and Climate. , 0 , 1-20.		1
112	Plant Canopies. , 0 , 264-288.		0