Gordan B Bonan

List of Publications by Year
in descending order

112 papers	34,759 citations	25034 57 h-index	56724 83 g-index
125 all docs	125 docs citations	125 times ranked	34135 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. Global Change Biology, 2022, 28, 665-684.	9.5	27
2	Impacts of a revised surface roughness parameterization in the Community Land Model 5.1. Geoscientific Model Development, 2022, 15, 2365-2393.	3.6	9
3	The signature of internal variability in the terrestrial carbon cycle. Environmental Research Letters, 2021, 16, 034022.	5.2	7
4	Moving beyond the incorrect but useful paradigm: reevaluating big-leaf and multilayer plant canopies to model biosphere-atmosphere fluxes â€“ a review. Agricultural and Forest Meteorology, 2021, 306, 108435.	4.8	64
5	Influence of Vertical Heterogeneities in the Canopy Microenvironment on Interannual Variability of Carbon Uptake in Temperate Deciduous Forests. Journal of Geophysical Research G: Biogeosciences, 2020, 125, e2020JG005658.	3.0	10
6	Beyond Static Benchmarking: Using Experimental Manipulations to Evaluate Land Model Assumptions. Global Biogeochemical Cycles, 2019, 33, 1289-1309.	4.9	59
7	Separating the Impact of Individual Land Surface Properties on the Terrestrial Surface Energy Budget in both the Coupled and Uncoupled Landâ€“Atmosphere System. Journal of Climate, 2019, 32, 5725-5744.	3.2	50
8	The Community Land Model Version 5: Description of New Features, Benchmarking, and Impact of Forcing Uncertainty. Journal of Advances in Modeling Earth Systems, 2019, 11, 4245-4287.	3.8	692
9	Model Structure and Climate Data Uncertainty in Historical Simulations of the Terrestrial Carbon Cycle (1850â€“2014). Global Biogeochemical Cycles, 2019, 33, 1310-1326.	4.9	53
10	Simulating surface energy fluxes using the variable-resolution Community Earth System Model (VR-CESM). Theoretical and Applied Climatology, 2019, 138, 115-133.	2.8	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.	5.2	19
32	Climate, ecosystems, and planetary futures: The challenge to predict life in Earth system models. Science, 2018, 359, .	12.6	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.	4.8	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.	3.8	19
35	Carbon cycle confidence and uncertainty: Exploring variation among soil biogeochemical models. Global Change Biology, 2018, 24, 1563-1579.	9.5	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.	3.6	98

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37	Triose phosphate limitation in photosynthesis models reduces leaf photosynthesis and global terrestrial carbon storage. Environmental Research Letters, 2018, 13, 074025.	5.2	56
38	Comparing optimal and empirical stomatal conductance models for application in Earth system models. Global Change Biology, 2018, 24, 5708-5723.	9.5	75
39	Cover Crops May Cause Winter Warming in Snowâ€Covered Regions. Geophysical Research Letters, 2018, 45, 9889-9897.	4.0	22
40	Changes in Wood Biomass and Crop Yields in Response to Projected CO₂, O₃, Nitrogen Deposition, and Climate. Journal of Geophysical Research G: Biogeosciences, 2018, 123, 3262-3282.	3.0	15
41	Biophysical consequences of photosynthetic temperature acclimation for climate. Journal of Advances in Modeling Earth Systems, 2017, 9, 536-547.	3.8	24
42	A roadmap for improving the representation of photosynthesis in Earth system models. New Phytologist, 2017, 213, 22-42.	7.3	365
43	Stomatal Function across Temporal and Spatial Scales: Deep-Time Trends, Land-Atmosphere Coupling and Global Models. Plant Physiology, 2017, 174, 583-602.	4.8	119
44	Reducing uncertainty in projections of terrestrial carbon uptake. Environmental Research Letters, 2017, 12, 044020.	5.2	84
45	Forests, Climate, and Public Policy: A 500-Year Interdisciplinary Odyssey. Annual Review of Ecology, Evolution, and Systematics, 2016, 47, 97-121.	8.3	43
46	Managing uncertainty in soil carbon feedbacks to climate change. Nature Climate Change, 2016, 6, 751-758.	18.8	491
47	Evaluating the Climate Effects of Reforestation in New England Using a Weather Research and Forecasting (WRF) Model Multiphysics Ensemble. Journal of Climate, 2016, 29, 5141-5156.	3.2	24
48	On the development of a coupled regional climateâ€"vegetation model RCMâ€"CLMâ€"CNâ€"DV and its validation in Tropical Africa. Climate Dynamics, 2016, 46, 515-539.	3.8	53
49	Optimizing Available Network Resources to Address Questions in Environmental Biogeochemistry. BioScience, 2016, 66, 317-326.	4.9	20
50	Temperature acclimation of photosynthesis and respiration: A key uncertainty in the carbon cycleâ€climate feedback. Geophysical Research Letters, 2015, 42, 8624-8631.	4.0	160
51	Representing life in the Earth system with soil microbial functional traits in the MIMICS model. Geoscientific Model Development, 2015, 8, 1789-1808.	3.6	154
52	Effects of model structural uncertainty on carbon cycle projections: biological nitrogen fixation as a case study. Environmental Research Letters, 2015, 10, 044016.	5.2	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 soilâ€"plantâ€"atmosphere continuum. Geoscientific Model Development, 2014, 7, 2193-2222.	3.6	293

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55	Integrating microbial physiology and physio-chemical principles in soils with the MIcrobial-MIneral Carbon Stabilization (MIMICS) model. Biogeosciences, 2014, 11, 3899-3917.	3.3	243
56	The Community Land Model underestimates land-use CO₂ emissions by neglecting soil disturbance from cultivation. Geoscientific Model Development, 2014, 7, 613-620.	3.6	49
57	Connecting mathematical ecosystems, realâ€world ecosystems, and climate science. New Phytologist, 2014, 202, 731-733.	7.3	38
58	Preindustrial-Control and Twentieth-Century Carbon Cycle Experiments with the Earth System Model CESM1(BGC). Journal of Climate, 2014, 27, 8981-9005.	3.2	156
59	The emerging anthropogenic signal in landâ€"atmosphere carbon-cycle coupling. Nature Climate Change, 2014, 4, 796-800.	18.8	26
60	Evaluating soil biogeochemistry parameterizations in Earth system models with observations. Global Biogeochemical Cycles, 2014, 28, 211-222.	4.9	76
61	Impacts of human alteration of the nitrogen cycle in the US on radiative forcing. Biogeochemistry, 2013, 114, 25-40.	3.5	51
62	Carbonâ€"Concentration and Carbonâ€"Climate Feedbacks in CMIP5 Earth System Models. Journal of Climate, 2013, 26, 5289-5314.	3.2	576
63	Evaluating litter decomposition in earth system models with longâ€term litterbag experiments: an example using the Community Land Model version 4 (<scp>CLM</scp>4). Global Change Biology, 2013, 19, 957-974.	9.5	164
64	Canadian climate aberration. Nature Geoscience, 2013, 6, 21-22.	12.9	0
65	Insights into mechanisms governing forest carbon response to nitrogen deposition: a modelâ€"data comparison using observed responses to nitrogen addition. Biogeosciences, 2013, 10, 3869-3887.	3.3	83
66	The effect of vertically resolved soil biogeochemistry and alternate soil C and N models on C dynamics of CLM4. Biogeosciences, 2013, 10, 7109-7131.	3.3	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. Journal of Climate, 2012, 25, 3071-3095.	3.2	255
68	Reconciling leaf physiological traits and canopy flux data: Use of the TRY and FLUXNET databases in the Community Land Model version 4. Journal of Geophysical Research, 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. Journal of Climate, 2012, 25, 3261-3281.	3.2	313
70	The CCSM4 Land Simulation, 1850â€"2005: Assessment of Surface Climate and New Capabilities. Journal of Climate, 2012, 25, 2240-2260.	3.2	276
71	Interactive Crop Management in the Community Earth System Model (CESM1): Seasonal Influences on Landâ€"Atmosphere Fluxes. Journal of Climate, 2012, 25, 4839-4859.	3.2	140
72	Ozone exposure causes a decoupling of conductance and photosynthesis: implications for the Ball-Berry stomatal conductance model. Oecologia, 2012, 169, 651-659.	2.0	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. Journal of Geophysical Research, 2011, 116, .	3.3	522
74	Parameterization improvements and functional and structural advances in Version 4 of the Community Land Model. Journal of Advances in Modeling Earth Systems, 2011, 3, .	3.8	666
75	Parameterization improvements and functional and structural advances in Version 4 of the Community Land Model. Journal of Advances in Modeling Earth Systems, 2011, 3, n/a-n/a.	3.8	367
76	An examination of urban heat island characteristics in a global climate model. International Journal of Climatology, 2011, 31, 1848-1865.	3.5	130
77	Forests and Global Change. Ecological Studies, 2011, , 711-725.	1.2	4
78	Anthropogenic land cover changes in a GCM with surface albedo changes based on MODIS data. International Journal of Climatology, 2010, 30, 2105-2117.	3.5	44
79	Recent decline in the global land evapotranspiration trend due to limited moisture supply. Nature, 2010, 467, 951-954.	27.8	1,771
80	Changes in Arctic vegetation amplify high-latitude warming through the greenhouse effect. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 1295-1300.	7.1	228
81	Quantifying carbonâ€nitrogen feedbacks in the Community Land Model (CLM4). Geophysical Research Letters, 2010, 37, .	4.0	167
82	Terrestrial Gross Carbon Dioxide Uptake: Global Distribution and Covariation with Climate. Science, 2010, 329, 834-838.	12.6	2,056
83	Effects of white roofs on urban temperature in a global climate model. Geophysical Research Letters, 2010, 37, .	4.0	169
84	Parameterization of Urban Characteristics for Global Climate Modeling. Annals of the American Association of Geographers, 2010, 100, 848-865.	3.0	128
85	Systematic assessment of terrestrial biogeochemistry in coupled climateâ€"carbon models. Global Change Biology, 2009, 15, 2462-2484.	9.5	324
86	Uncertainties in climate responses to past land cover change: First results from the LUCID intercomparison study. Geophysical Research Letters, 2009, 36, .	4.0	444
87	Fertilizing change. Nature Geoscience, 2008, 1, 645-646.	12.9	24
88	Use of FLUXNET in the Community Land Model development. Journal of Geophysical Research, 2008, 113, .	3.3	210
89	Improvements to the Community Land Model and their impact on the hydrological cycle. Journal of Geophysical Research, 2008, 113, .	3.3	649
90	Forests and Climate Change: Forcings, Feedbacks, and the Climate Benefits of Forests. Science, 2008, 320, 1444-1449.	12.6	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. Journal of Applied Meteorology and Climatology, 2008, 47, 1061-1076.	1.5	95
92	An Urban Parameterization for a Global Climate Model. Part I: Formulation and Evaluation for Two Cities. Journal of Applied Meteorology and Climatology, 2008, 47, 1038-1060.	1.5	232
93	Protecting climate with forests. Environmental Research Letters, 2008, 3, 044006.	5.2	313
94	Presentâ€day springtime highâ€latitude surface albedo as a predictor of simulated climate sensitivity. Geophysical Research Letters, 2007, 34, .	4.0	20
95	The Partitioning of Evapotranspiration into Transpiration, Soil Evaporation, and Canopy Evaporation in a GCM: Impacts on Landâ€"Atmosphere Interaction. Journal of Hydrometeorology, 2007, 8, 862-880.	1.9	399
96	The Community Climate System Model Version 3 (CCSM3). Journal of Climate, 2006, 19, 2122-2143.	3.2	2,075
97	The Community Land Model and Its Climate Statistics as a Component of the Community Climate System Model. Journal of Climate, 2006, 19, 2302-2324.	3.2	320
98	The Importance of Land-Cover Change in Simulating Future Climates. Science, 2005, 310, 1674-1678.	12.6	930
99	Global Consequences of Land Use. Science, 2005, 309, 570-574.	12.6	9,451
100	Effects of land use change on North American climate: impact of surface datasets and model biogeophysics. Climate Dynamics, 2004, 23, 117-132.	3.8	91
101	Soil feedback drives the mid-Holocene North African monsoon northward in fully coupled CCSM2 simulations with a dynamic vegetation model. Climate Dynamics, 2004, 23, 791-802.	3.8	122
102	A dynamic global vegetation model for use with climate models: concepts and description of simulated vegetation dynamics. Global Change Biology, 2003, 9, 1543-1566.	9.5	335
103	Assessment of global climate model land surface albedo using MODIS data. Geophysical Research Letters, 2003, 30, .	4.0	92
104	The Land Surface Climatology of the Community Land Model Coupled to the NCAR Community Climate Model*. Journal of Climate, 2002, 15, 3123-3149.	3.2	583
105	Land-atmosphere CO2exchange simulated by a land surface process model coupled to an atmospheric general circulation model. Journal of Geophysical Research, 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