Gordon B Bonan

List of Publications by Year
in descending order

111 papers	24,031 citations	16411 64 h-index	32761 100 g-index
115 all docs	115 docs citations	115 times ranked	21979 citing authors

#	Article	IF	Citations
1	Forests and Climate Change: Forcings, Feedbacks, and the Climate Benefits of Forests. Science, 2008, 320, 1444-1449.	6.0	4,344
2	The Community Climate System Model Version 3 (CCSM3). Journal of Climate, 2006, 19, 2122-2143.	1.2	2,075
3	Terrestrial Gross Carbon Dioxide Uptake: Global Distribution and Covariation with Climate. Science, 2010, 329, 834-838.	6.0	2,056
4	The Importance of Land-Cover Change in Simulating Future Climates. Science, 2005, 310, 1674-1678.	6.0	930
5	Effects of boreal forest vegetation on global climate. Nature, 1992, 359, 716-718.	13.7	924
6	Global soil carbon projections are improved by modelling microbial processes. Nature Climate Change, 2013, 3, 909-912.	8.1	772
7	Parameterization improvements and functional and structural advances in Version 4 of the Community Land Model. Journal of Advances in Modeling Earth Systems, 2011, 3, .	1.3	666
8	The Land Surface Climatology of the Community Land Model Coupled to the NCAR Community Climate Model*. Journal of Climate, 2002, 15, 3123-3149.	1.2	583
9	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
10	Managing uncertainty in soil carbon feedbacks to climate change. Nature Climate Change, 2016, 6, 751-758.	8.1	491
11	Landscapes as patches of plant functional types: An integrating concept for climate and ecosystem models. Global Biogeochemical Cycles, 2002, 16, 5-1-5-23.	1.9	483
12	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.	0.7	399
13	Climate, ecosystems, and planetary futures: The challenge to predict life in Earth system models. Science, 2018, 359, .	6.0	397
14	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.	1.3	367
15	A dynamic global vegetation model for use with climate models: concepts and description of simulated vegetation dynamics. Global Change Biology, 2003, 9, 1543-1566.	4.2	335
16	Effects of Land Use on the Climate of the United States. Climatic Change, 1997, 37, 449-486.	1.7	325
17	Protecting climate with forests. Environmental Research Letters, 2008, 3, 044006.	2.2	313
18	Biophysical considerations in forestry for climate protection. Frontiers in Ecology and the Environment, 2011, 9, 174-182.	1.9	301

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19	The Land Surface Climatology of the NCAR Land Surface Model Coupled to the NCAR Community Climate Model*. Journal of Climate, 1998, 11, 1307-1326.	1.2	294
20	The CCSM4 Land Simulation, 1850â€“2005: Assessment of Surface Climate and New Capabilities. Journal of Climate, 2012, 25, 2240-2260.	1.2	276
21	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.	1.2	255
22	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
23	Boreal forest and tundra ecosystems as components of the climate system. Climatic Change, 1995, 29, 145-167.	1.7	250
24	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.	3.3	228
25	The Representation of Arctic Soils in the Land Surface Model: The Importance of Mosses. Journal of Climate, 2001, 14, 3324-3335.	1.2	196
26	Sensitivity of a GCM Simulation to Inclusion of Inland Water Surfaces. Journal of Climate, 1995, 8, 2691-2704.	1.2	179
27	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
28	Quantifying carbonâ€nitrogen feedbacks in the Community Land Model (CLM4). Geophysical Research Letters, 2010, 37, .	1.5	167
29	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.	4.2	164
30	Temperature acclimation of photosynthesis and respiration: A key uncertainty in the carbon cycleâ€climate feedback. Geophysical Research Letters, 2015, 42, 8624-8631.	1.5	160
31	A computer model of the solar radiation, soil moisture, and soil thermal regimes in boreal forests. Ecological Modelling, 1989, 45, 275-306.	1.2	158
32	Soil temperature, nitrogen mineralization, and carbon sourceâ€“sink relationships in boreal forests. Canadian Journal of Forest Research, 1992, 22, 629-639.	0.8	158
33	Preindustrial-Control and Twentieth-Century Carbon Cycle Experiments with the Earth System Model CESM1(BGC). Journal of Climate, 2014, 27, 8981-9005.	1.2	156
34	Observational Evidence for Reduction of Daily Maximum Temperature by Croplands in the Midwest United States. Journal of Climate, 2001, 14, 2430-2442.	1.2	141
35	Interactive Crop Management in the Community Earth System Model (CESM1): Seasonal Influences on Landâ€“Atmosphere Fluxes. Journal of Climate, 2012, 25, 4839-4859.	1.2	140
36	The sensitivity of some high-latitude boreal forests to climatic parameters. Climatic Change, 1990, 16, 9-29.	1.7	138

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37	Land-Atmosphere interactions for climate system Models: coupling biophysical, biogeochemical, and ecosystem dynamical processes. Remote Sensing of Environment, 1995, 51, 57-73.	4.6	128
38	Parameterization of Urban Characteristics for Global Climate Modeling. Annals of the American Association of Geographers, 2010, 100, 848-865.	3.0	128
39	Soil Moisture Feedbacks to Precipitation in Southern Africa. Journal of Climate, 2006, 19, 4198-4206.	1.2	124
40	FROST FOLLOWED THE PLOW: IMPACTS OF DEFORESTATION ON THE CLIMATE OF THE UNITED STATES. , 1999, 9, 1305-1315.		122
41	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.	1.7	122
42	Carbon cycle confidence and uncertainty: Exploring variation among soil biogeochemical models. Global Change Biology, 2018, 24, 1563-1579.	4.2	122
43	Stomatal Function across Temporal and Spatial Scales: Deep-Time Trends, Land-Atmosphere Coupling and Global Models. Plant Physiology, 2017, 174, 583-602.	2.3	119
44	Evaluating Aspects of the Community Land and Atmosphere Models (CLM3 and CAM3) Using a Dynamic Global Vegetation Model. Journal of Climate, 2006, 19, 2290-2301.	1.2	117
45	A biophysical surface energy budget analysis of soil temperature in the boreal forests of interior Alaska. Water Resources Research, 1991, 27, 767-781.	1.7	114
46	Influence of Subgrid-Scale Heterogeneity in Leaf Area Index, Stomatal Resistance, and Soil Moisture on Grid-Scale Landâ€"Atmosphere Interactions. Journal of Climate, 1993, 6, 1882-1897.	1.2	113
47	Effects of model structural uncertainty on carbon cycle projections: biological nitrogen fixation as a case study. Environmental Research Letters, 2015, 10, 044016.	2.2	109
48	Simulating biogenic volatile organic compound emissions in the Community Climate System Model. Journal of Geophysical Research, 2003, 108, .	3.3	106
49	Nitrogen Controls on Climate Model Evapotranspiration. Journal of Climate, 2002, 15, 278-295.	1.2	99
50	The microclimates of a suburban Colorado (USA) landscape and implications for planning and design. Landscape and Urban Planning, 2000, 49, 97-114.	3.4	98
51	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
52	Atmosphereâ€biosphere exchange of carbon dioxide in boreal forests. Journal of Geophysical Research, 1991, 96, 7301-7312.	3.3	93
53	Assessment of global climate model land surface albedo using MODIS data. Geophysical Research Letters, 2003, 30, .	1.5	92
54	The Size Structure of Theoretical Plant Populations: Spatial Patterns and Neighborhood Effects. Ecology, 1988, 69, 1721-1730.	1.5	89

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55	Feedbacks between climate and surface water in northern Africa during the middle Holocene. Journal of Geophysical Research, 1997, 102, 11087-11101.	3.3	89
56	Physiological controls of the carbon balance of boreal forest ecosystems. Canadian Journal of Forest Research, 1993, 23, 1453-1471.	0.8	86
57	Reducing uncertainty in projections of terrestrial carbon uptake. Environmental Research Letters, 2017, 12, 044020.	2.2	84
58	Environmental factors and ecological processes controlling vegetation patterns in boreal forests. Landscape Ecology, 1989, 3, 111-130.	1.9	82
59	Air temperature, tree growth, and the northern and southern range limits toPicea mariana. Journal of Vegetation Science, 1992, 3, 495-506.	1.1	81
60	Evaluating soil biogeochemistry parameterizations in Earth system models with observations. Global Biogeochemical Cycles, 2014, 28, 211-222.	1.9	76
61	Comparing optimal and empirical stomatal conductance models for application in Earth system models. Global Change Biology, 2018, 24, 5708-5723.	4.2	75
62	Carbon and nitrogen cycling in North American boreal forests. II. Biogeographic patterns. Canadian Journal of Forest Research, 1990, 20, 1077-1088.	0.8	74
63	Density Effects on the Size Structure of Annual Plant Populations: An Indication of Neighbourhood Competition. Annals of Botany, 1991, 68, 341-347.	1.4	69
64	Impact of tundra ecosystems on the surface energy budget and climate of Alaska. Journal of Geophysical Research, 1999, 104, 6647-6660.	3.3	68
65	Comparison of the NCAR LSM1 land surface model with BOREAS aspen and jack pine tower fluxes. Journal of Geophysical Research, 1997, 102, 29065-29075.	3.3	67
66	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.	1.9	64
67	Simulating Springtime Temperature Patterns in the Community Atmosphere Model Coupled to the Community Land Model Using Prognostic Leaf Area. Journal of Climate, 2004, 17, 4531-4540.	1.2	63
68	Carbon and nitrogen cycling in North American boreal forests. Biogeochemistry, 1990, 10, 1.	1.7	61
69	Beyond Static Benchmarking: Using Experimental Manipulations to Evaluate Land Model Assumptions. Global Biogeochemical Cycles, 2019, 33, 1289-1309.	1.9	59
70	Triose phosphate limitation in photosynthesis models reduces leaf photosynthesis and global terrestrial carbon storage. Environmental Research Letters, 2018, 13, 074025.	2.2	56
71	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.	1.7	53
72	Model Structure and Climate Data Uncertainty in Historical Simulations of the Terrestrial Carbon Cycle (1850â€“2014). Global Biogeochemical Cycles, 2019, 33, 1310-1326.	1.9	53

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73	Impacts of human alteration of the nitrogen cycle in the US on radiative forcing. Biogeochemistry, 2013, 114, 25-40.	1.7	51
74	Using a Forest Stand Simulation Model to Examine the Ecological and Climatic Significance of the Late-Quaternary Pine-Spruce Pollen Zone in Eastern Virginia, U.S.A.. Quaternary Research, 1990, 33, 204-218.	1.0	50
75	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.	1.2	50
76	The Effects of Remotely Sensed Plant Functional Type and Leaf Area Index on Simulations of Boreal Forest Surface Fluxes by the NCAR Land Surface Model. Journal of Hydrometeorology, 2000, 1, 431-446.	0.7	46
77	Forests, Climate, and Public Policy: A 500-Year Interdisciplinary Odyssey. Annual Review of Ecology, Evolution, and Systematics, 2016, 47, 97-121.	3.8	43
78	Simulation of moss and tree dynamics in the boreal forests of interior Alaska. Plant Ecology, 1989, 84, 31-44.	1.2	40
79	Connecting mathematical ecosystems, realâ€world ecosystems, and climate science. New Phytologist, 2014, 202, 731-733.	3.5	38
80	Soil water and the persistence of floods and droughts in the Mississippi River Basin. Water Resources Research, 1998, 34, 2693-2701.	1.7	34
81	Comparison of two land surface process models using prescribed forcings. Journal of Geophysical Research, 1994, 99, 25803.	3.3	33
82	The transition between boreal forest and tundra. , 1992, , 196-215.		33
83	The thermoinsulation effect of snow cover within a climate model. Climate Dynamics, 2008, 31, 107-124.	1.7	32
84	Sensitivity of a GCM simulation to subgrid infiltration and surface runoff. Climate Dynamics, 1996, 12, 279-285.	1.7	27
85	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.	4.2	27
86	The emerging anthropogenic signal in landâ€“atmosphere carbon-cycle coupling. Nature Climate Change, 2014, 4, 796-800.	8.1	26
87	Seasonal and annual carbon fluxes in a boreal forest landscape. Journal of Geophysical Research, 1991, 96, 17329-17338.	3.3	24
88	Analysis of neighborhood competition among annual plants: implications of a plant growth model. Ecological Modelling, 1993, 65, 123-136.	1.2	24
89	Presentâ€day springtime highâ€latitude surface albedo as a predictor of simulated climate sensitivity. Geophysical Research Letters, 2007, 34, .	1.5	20
90	Optimizing Available Network Resources to Address Questions in Environmental Biogeochemistry. BioScience, 2016, 66, 317-326.	2.2	20

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91	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
92	High predictability of terrestrial carbon fluxes from an initialized decadal prediction system. Environmental Research Letters, 2019, 14, 124074.	2.2	19
93	Rapid vegetation responses and feedbacks amplify climate model response to snow cover changes. Climate Dynamics, 2008, 30, 391-406.	1.7	17
94	Physiological derivation of the observed relationship between net primary production and mean annual air temperature. Tellus, Series B: Chemical and Physical Meteorology, 1993, 45, 397-408.	0.8	12
95	Comparison of the land surface climatology of the National Center for Atmospheric Research community climate model 2 at R15 and T42 resolutions. Journal of Geophysical Research, 1994, 99, 10357.	3.3	11
96	Physiological derivation of the observed relationship between net primary production and mean annual air temperature. Tellus, Series B: Chemical and Physical Meteorology, 1993, 45, 397-408.	0.8	9
97	Impacts of a revised surface roughness parameterization in the Community Land Model 5.1. Geoscientific Model Development, 2022, 15, 2365-2393.	1.3	9
98	Comparison of atmospheric carbon dioxide concentration and metabolic activity in Boreal Forest ecosystems. Tellus, Series B: Chemical and Physical Meteorology, 2022, 44, 173.	0.8	8
99	The signature of internal variability in the terrestrial carbon cycle. Environmental Research Letters, 2021, 16, 034022.	2.2	7
100	Biogeophysical feedbacks between land cover and climate. Geophysical Monograph Series, 2004, , 61-72.	0.1	5
101	Comparison of atmospheric carbon dioxide concentration and metabolic activity in Boreal Forest ecosystems. Tellus, Series B: Chemical and Physical Meteorology, 1992, 44, 173-185.	0.8	4
102	Forests and Global Change. Ecological Studies, 2011, , 711-725.	0.4	4
103	Land use and land-cover change. , 2008, , 432-469.		3
104	Land surface processes in climate models. , 0, , 395-417.		1
105	Soil physics. , 0, , 131-140.		0
106	Ecosystems. , 0, , 303-325.		0
107	Vegetation dynamics. , 0, , 326-346.		0
108	Global biogeography. , 0, , 364-392.		0

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109	Seasonal-to-interannual variability. , 0, , 418-431.		0
110	Coupled climateâ€“vegetation dynamics. , 0, , 470-488.		0
111	Carbon cycleâ€“climate feedbacks. , 0, , 489-519.		0