

Gordan B Bonan

List of Publications by Citations

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|--------------------|--------------------------|----------------|-----------------|
| 118 papers | 27,578 citations | 54 h-index | 125 g-index |
| 125 ext. papers | 31,398 ext. citations | 8.7 avg, IF | 7.26 L-index |

| # | Paper | IF | Citations |
|-----|---|------|-----------|
| 118 | Global consequences of land use. <i>Science</i> , 2005 , 309, 570-4 | 33.3 | 7529 |
| 117 | Forests and climate change: forcings, feedbacks, and the climate benefits of forests. <i>Science</i> , 2008 , 320, 1444-9 | 33.3 | 3374 |
| 116 | The Community Climate System Model Version 3 (CCSM3). <i>Journal of Climate</i> , 2006 , 19, 2122-2143 | 4.4 | 1917 |
| 115 | Terrestrial gross carbon dioxide uptake: global distribution and covariation with climate. <i>Science</i> , 2010 , 329, 834-8 | 33.3 | 1638 |
| 114 | Recent decline in the global land evapotranspiration trend due to limited moisture supply. <i>Nature</i> , 2010 , 467, 951-4 | 50.4 | 1382 |
| 113 | The importance of land-cover change in simulating future climates. <i>Science</i> , 2005 , 310, 1674-8 | 33.3 | 762 |
| 112 | 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, | 7.1 | 581 |
| 111 | Improvements to the Community Land Model and their impact on the hydrological cycle. <i>Journal of Geophysical Research</i> , 2008 , 113, n/a-n/a | | 568 |
| 110 | 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 | 4.4 | 499 |
| 109 | Carbon Concentration and Carbon Climate Feedbacks in CMIP5 Earth System Models. <i>Journal of Climate</i> , 2013 , 26, 5289-5314 | 4.4 | 493 |
| 108 | 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, | | 440 |
| 107 | Uncertainties in climate responses to past land cover change: First results from the LUCID intercomparison study. <i>Geophysical Research Letters</i> , 2009 , 36, | 4.9 | 365 |
| 106 | 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 | 3.7 | 344 |
| 105 | Systematic assessment of terrestrial biogeochemistry in coupled climate-carbon models. <i>Global Change Biology</i> , 2009 , 15, 2462-2484 | 11.4 | 299 |
| 104 | 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 | 4.4 | 296 |
| 103 | Managing uncertainty in soil carbon feedbacks to climate change. <i>Nature Climate Change</i> , 2016 , 6, 751-758 | 11.4 | 291 |
| 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 | 11.4 | 291 |

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| 101 | 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 | 7.1 | 288 |
| 100 | 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 | 4.6 | 282 |
| 99 | Protecting climate with forests. <i>Environmental Research Letters</i> , 2008 , 3, 044006 | 6.2 | 264 |
| 98 | 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 | 4.4 | 259 |
| 97 | 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 | 7.1 | 258 |
| 96 | A roadmap for improving the representation of photosynthesis in Earth system models. <i>New Phytologist</i> , 2017 , 213, 22-42 | 9.8 | 245 |
| 95 | Climate, ecosystems, and planetary futures: The challenge to predict life in Earth system models. <i>Science</i> , 2018 , 359, | 33.3 | 238 |
| 94 | The CCSM4 Land Simulation, 1850-2005: Assessment of Surface Climate and New Capabilities. <i>Journal of Climate</i> , 2012 , 25, 2240-2260 | 4.4 | 235 |
| 93 | 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 | 4.4 | 228 |
| 92 | 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 | 6.3 | 216 |
| 91 | 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 | | 199 |
| 90 | Use of FLUXNET in the Community Land Model development. <i>Journal of Geophysical Research</i> , 2008 , 113, n/a-n/a | | 196 |
| 89 | 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 | 2.7 | 193 |
| 88 | 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, 1295-300 | 11.5 | 192 |
| 87 | Integrating microbial physiology and physio-chemical principles in soils with the Microbial-Mineral Carbon Stabilization (MIMICS) model. <i>Biogeosciences</i> , 2014 , 11, 3899-3917 | 4.6 | 184 |
| 86 | 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, n/a-n/a | | 147 |
| 85 | Quantifying carbon-nitrogen feedbacks in the Community Land Model (CLM4). <i>Geophysical Research Letters</i> , 2010 , 37, n/a-n/a | 4.9 | 145 |
| 84 | Effects of white roofs on urban temperature in a global climate model. <i>Geophysical Research Letters</i> , 2010 , 37, n/a-n/a | 4.9 | 145 |

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| 83 | Ecological Climatology: Concepts and Applications 2016 , | | 130 |
| 82 | 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, 957-74 | 11.4 | 128 |
| 81 | Preindustrial-Control and Twentieth-Century Carbon Cycle Experiments with the Earth System Model CESM1(BGC). <i>Journal of Climate</i> , 2014 , 27, 8981-9005 | 4.4 | 125 |
| 80 | Temperature acclimation of photosynthesis and respiration: A key uncertainty in the carbon cycle-climate feedback. <i>Geophysical Research Letters</i> , 2015 , 42, 8624-8631 | 4.9 | 119 |
| 79 | Representing life in the Earth system with soil microbial functional traits in the MIMICS model. <i>Geoscientific Model Development</i> , 2015 , 8, 1789-1808 | 6.3 | 114 |
| 78 | 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 | 4.4 | 112 |
| 77 | 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 | 4.2 | 109 |
| 76 | An examination of urban heat island characteristics in a global climate model. <i>International Journal of Climatology</i> , 2011 , 31, 1848-1865 | 3.5 | 106 |
| 75 | Parameterization of Urban Characteristics for Global Climate Modeling. <i>Annals of the American Association of Geographers</i> , 2010 , 100, 848-865 | | 99 |
| 74 | Effects of model structural uncertainty on carbon cycle projections: biological nitrogen fixation as a case study. <i>Environmental Research Letters</i> , 2015 , 10, 044016 | 6.2 | 88 |
| 73 | 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 | 2.7 | 83 |
| 72 | Effects of land use change on North American climate: impact of surface datasets and model biogeophysics. <i>Climate Dynamics</i> , 2004 , 23, 117-132 | 4.2 | 82 |
| 71 | Assessment of global climate model land surface albedo using MODIS data. <i>Geophysical Research Letters</i> , 2003 , 30, | 4.9 | 79 |
| 70 | Carbon cycle confidence and uncertainty: Exploring variation among soil biogeochemical models. <i>Global Change Biology</i> , 2018 , 24, 1563-1579 | 11.4 | 79 |
| 69 | Stomatal Function across Temporal and Spatial Scales: Deep-Time Trends, Land-Atmosphere Coupling and Global Models. <i>Plant Physiology</i> , 2017 , 174, 583-602 | 6.6 | 78 |
| 68 | 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 | 4.6 | 70 |
| 67 | Modeling canopy-induced turbulence in the Earth system: a unified parameterization of turbulent exchange within plant canopies and the roughness sublayer (CLM-ml v0). <i>Geoscientific Model Development</i> , 2018 , 11, 1467-1496 | 6.3 | 65 |
| 66 | The role of surface roughness, albedo, and Bowen ratio on ecosystem energy balance in the Eastern United States. <i>Agricultural and Forest Meteorology</i> , 2018 , 249, 367-376 | 5.8 | 60 |

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| 65 | Evaluating soil biogeochemistry parameterizations in Earth system models with observations. <i>Global Biogeochemical Cycles</i> , 2014 , 28, 211-222 | 5.9 | 57 |
| 64 | Ozone exposure causes a decoupling of conductance and photosynthesis: implications for the Ball-Berry stomatal conductance model. <i>Oecologia</i> , 2012 , 169, 651-9 | 2.9 | 52 |
| 63 | Triose phosphate limitation in photosynthesis models reduces leaf photosynthesis and global terrestrial carbon storage. <i>Environmental Research Letters</i> , 2018 , 13, 074025 | 6.2 | 47 |
| 62 | Reducing uncertainty in projections of terrestrial carbon uptake. <i>Environmental Research Letters</i> , 2017 , 12, 044020 | 6.2 | 44 |
| 61 | 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 | 6.3 | 44 |
| 60 | Comparing optimal and empirical stomatal conductance models for application in Earth system models. <i>Global Change Biology</i> , 2018 , 24, 5708-5723 | 11.4 | 44 |
| 59 | On the development of a coupled regional climate-vegetation model RCM-CLM-NDV and its validation in Tropical Africa. <i>Climate Dynamics</i> , 2016 , 46, 515-539 | 4.2 | 42 |
| 58 | Impacts of human alteration of the nitrogen cycle in the US on radiative forcing. <i>Biogeochemistry</i> , 2013 , 114, 25-40 | 3.8 | 41 |
| 57 | 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 | 3.5 | 40 |
| 56 | Beyond Static Benchmarking: Using Experimental Manipulations to Evaluate Land Model Assumptions. <i>Global Biogeochemical Cycles</i> , 2019 , 33, 1289-1309 | 5.9 | 35 |
| 55 | Climate Change and Terrestrial Ecosystem Modeling 2019 , | | 32 |
| 54 | 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 | 5.9 | 31 |
| 53 | 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 | 4.4 | 30 |
| 52 | Forests, Climate, and Public Policy: A 500-Year Interdisciplinary Odyssey. <i>Annual Review of Ecology, Evolution, and Systematics</i> , 2016 , 47, 97-121 | 13.5 | 30 |
| 51 | Connecting mathematical ecosystems, real-world ecosystems, and climate science. <i>New Phytologist</i> , 2014 , 202, 731-733 | 9.8 | 29 |
| 50 | The emerging anthropogenic signal in land-atmosphere carbon-cycle coupling. <i>Nature Climate Change</i> , 2014 , 4, 796-800 | 21.4 | 21 |
| 49 | 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 | 4.4 | 19 |
| 48 | Representing life in the Earth system with soil microbial functional traits in the MIMICS model 2015 , | | 18 |

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| 47 | Present-day springtime high-latitude surface albedo as a predictor of simulated climate sensitivity. <i>Geophysical Research Letters</i> , 2007 , 34, | 4.9 | 18 |
| 46 | 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 | 5.8 | 17 |
| 45 | Optimizing Available Network Resources to Address Questions in Environmental Biogeochemistry. <i>BioScience</i> , 2016 , 66, 317-326 | 5.7 | 16 |
| 44 | A Comparison of the Diel Cycle of Modeled and Measured Latent Heat Flux During the Warm Season in a Colorado Subalpine Forest. <i>Journal of Advances in Modeling Earth Systems</i> , 2018 , 10, 617-651 | 7.1 | 15 |
| 43 | The effect of vertically-resolved soil biogeochemistry and alternate soil C and N models on C dynamics of CLM4 | | 15 |
| 42 | Integrating microbial physiology and physiochemical principles in soils with the Microbial-Mineral Carbon Stabilization (MIMICS) model | | 15 |
| 41 | Biophysical consequences of photosynthetic temperature acclimation for climate. <i>Journal of Advances in Modeling Earth Systems</i> , 2017 , 9, 536-547 | 7.1 | 14 |
| 40 | Cover Crops May Cause Winter Warming in Snow-Covered Regions. <i>Geophysical Research Letters</i> , 2018 , 45, 9889-9897 | 4.9 | 14 |
| 39 | High predictability of terrestrial carbon fluxes from an initialized decadal prediction system. <i>Environmental Research Letters</i> , 2019 , 14, 124074 | 6.2 | 13 |
| 38 | 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 | 3.7 | 12 |
| 37 | Insights into mechanisms governing forest carbon response to nitrogen deposition: a model-data comparison using observed responses to nitrogen addition | | 6 |
| 36 | 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 | 3.7 | 5 |
| 35 | Simulating surface energy fluxes using the variable-resolution Community Earth System Model (VR-CESM). <i>Theoretical and Applied Climatology</i> , 2019 , 138, 115-133 | 3 | 4 |
| 34 | Modeling canopy-induced turbulence in the Earth system: a unified parameterization of turbulent exchange within plant canopies and the roughness sublayer (CLM-ml v0) | | 4 |
| 33 | Modeling stomatal conductance in the Earth system: linking leaf water-use efficiency and water transport along the soil-plant-atmosphere continuum | | 4 |
| 32 | Forests and Global Change. <i>Ecological Studies</i> , 2011 , 711-725 | 1.1 | 4 |
| 31 | 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> , 2021 , | 11.4 | 3 |
| 30 | Terrestrial Ecosystems and Earth System Models | | 2 |

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| 29 | Terrestrial Biosphere Models 2019 , 1-24 | | 2 |
| 28 | Plant Hydraulics 2019 , 213-227 | | 2 |
| 27 | The signature of internal variability in the terrestrial carbon cycle. <i>Environmental Research Letters</i> , 2021 , 16, 034022 | 6.2 | 2 |
| 26 | Ecosystems and Climate1-20 | | 1 |
| 25 | Turbulent Fluxes and Scalar Profiles in the Surface Layer 2019 , 80-100 | | 1 |
| 24 | Stomatal Conductance 2019 , 189-212 | | 1 |
| 23 | Soil Temperature 2019 , 64-79 | | 0 |
| 22 | Surface Energy Fluxes 2019 , 101-114 | | 0 |
| 21 | Leaf Photosynthesis 2019 , 167-188 | | 0 |
| 20 | Radiative Transfer 2019 , 228-259 | | 0 |
| 19 | Impacts of a revised surface roughness parameterization in the Community Land Model 5.1. <i>Geoscientific Model Development</i> , 2022 , 15, 2365-2393 | 6.3 | 0 |
| 18 | Plant Canopies264-288 | | |
| 17 | Soil Biogeochemistry358-375 | | |
| 16 | Landscapes and Disturbances400-421 | | |
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