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Education and Training

2006 Ph.D. Meteorology, The Pennsylvania State University, University Park, PA

2000 B.S. Physics, Duke University, Durham, NC

Research and Professional Experience

2010-present Research Staff Member, Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN

2007-2010 Postdoctoral Associate, Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN

2006 Postdoctoral Associate, Department of Meteorology, The Pennsylvania State University, University Park, PA

2000-2006 Research Assistant, Department of Meteorology, The Pennsylvania State University, University Park, PA

Publications: Peer reviewed (published or accepted)

1. Yang, C. E., J. F. Mao, F. M. Hoffman, **D. M. Ricciuto**, J. S. Fu, C. D. Jones and M. Thurner (2018). "Uncertainty Quantification of Extratropical Forest Biomass in CMIP5 Models over the Northern Hemisphere." Scientific Reports **8**.
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3. **Ricciuto, D.**, K. Sargsyan and P. Thornton (2018). "The Impact of Parametric Uncertainties on Biogeochemistry in the E3SM Land Model." Journal of Advances in Modeling Earth Systems **10**(2): 297-319.
4. Lu, D., **D. Ricciuto**, M. Stoyanov and L. H. Gu (2018). "Calibration of the E3SM Land Model Using Surrogate-Based Global Optimization." Journal of Advances in Modeling Earth Systems **10**(6): 1337-1356.
5. Lu, D., **D. Ricciuto** and K. Evans (2018). "An efficient Bayesian data-worth analysis using a multilevel Monte Carlo method." Advances in Water Resources **113**: 223-235.
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- Wei, Y. F. Huang and G. Q. Wang (2017). "Response of Water Use Efficiency to Global Environmental Change Based on Output From Terrestrial Biosphere Models." Global Biogeochemical Cycles **31**(11): 1639-1655.
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- F. M. Hoffman, M. Y. Huang, S. Huang, D. N. Huntzinger, A. Ito, A. Jain, A. W. King, H. M. Lei, C. Q. Lu, A. M. Michalak, N. Parazoo, C. H. Peng, S. S. Peng, B. Poulter, K. Schaefer, E. Jafarov, P. E. Thornton, W. L. Wang, N. Zeng, Z. Z. Zeng, F. Zhao, Q. A. Zhu and Z. C. Zhu (2015). "Disentangling climatic and anthropogenic controls on global terrestrial evapotranspiration trends." Environmental Research Letters **10**(9).
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1. **Ricciuto, D.M.**, C. Iversen, D. Lu, L. McCormack, J. Warren, A. Walker (2018). The influence of trait variability and representation of root dynamics on land-surface model predictions. To be submitted.
2. **Ricciuto, D.M.**, X. Yang, P. Thornton (2018). Evaluating the E3SM land model using LIDET experiments. To be submitted.

Published datasets

1. Wei, Y., S. Liu, D. Huntzinger, A.M. Michalak, N. Viovy, W.M. Post, C. Schwalm, K. Schaefer, A.R. Jacobson, C. Lu, H. Tian, **D.M. Ricciuto**, R.B. Cook, J. Mao, and X. Shi. 2014. NACP MsTMIP: Global and North American Driver Data for Multi-Model Intercomparison. Data set. Available on-line [<http://daac.ornl.gov>] from Oak Ridge National Laboratory Distributed Active Archive Center, Oak Ridge, Tennessee, USA. <http://dx.doi.org/10.3334/ORNLDAAC/1220>
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4. **Ricciuto, D.M.**, K. Schaefer, P.E. Thornton, K. Davis, R.B. Cook, R. Anderson, M.A. Arain, I. Baker, J.M. Chen, M. Dietze, R. Grant, C. Izaurralde, M.A. Jain, A.W. King, C. Kucharik, S. Liu, E. Lokupitiya, Y. Luo, C. Peng, B. Poulter, D. Price, W. Riley, A. Sahoo, H. Tian, C. Tonitto, and H. Verbeeck. 2013. NACP Site: Terrestrial Biosphere Model and Aggregated Flux Data in Standard Format. Data set. Available on-line [<http://daac.ornl.gov>] from Oak Ridge National Laboratory Distributed Active Archive Center, Oak Ridge, Tennessee, U.S.A. doi:10.3334/ORNLDAAC/XXX

Selected recent presentations

1. **D. Ricciuto**, K. Sargsyan, D. Lu, K. Evans, Y. Marzouk, J. Jagalur Mohan, F. Li, C. Safta, M. Stoyanov, P. Thornton. Improving E3SM predictions using new surrogate modeling approaches and virtual observation networks. EESM PI meeting, Potomac, MD. Nov 2018.
2. J. Mao, B. Yan, R.E. Dickinson, X. Shi, **D.M. Ricciuto**, R.J. Norby, Y. Dai, X. Zhang, N. McDowell, J. Wu, Spatially and seasonally asymmetric responses of Amazon forests to El Nino, presented at 2017 Fall Meeting, AGU, New Orleans, Louisiana, 11-15 Dec.
3. M. Chen, E.E. Butler, K.R. Wythers, J. Kattge, **D.M. Ricciuto**, P.E. Thornton, O.K. Atkin, H. Flores-Moreno, P.B. Reich, A better way of representing stem area index in two big-leaf models: The application and impact on canopy integration of leaf nitrogen content, presented at 2017 Fall Meeting, AGU, New Orleans, Louisiana, 11-15 Dec.
4. Y. Luo, Y. Huang, J. Jiang, S. Ma, V. Saruta, G. Liang, P.J. Hanson, **D.M. Ricciuto**, A. Milcu, J. Roy, Integration of research infrastructures and ecosystem models toward development of predictive ecology, presented at 2017 Fall Meeting, AGU, New Orleans, Louisiana, 11-15 Dec.
5. A.J. Felton, J. Warren, **D.M. Ricciuto**, M.D. Smith, Drought resilience across ecologically dominant species: An experiment-model integration approach, presented at 2017 Fall Meeting, AGU, New Orleans, Louisiana, 11-15 Dec.
6. J. Liang, **D.M. Ricciuto**, G. Wang, L. Gu, P.J. Hanson, M.A. Mayes, A mechanistic diagnosis of the simulation of soil CO₂ efflux of the ACME land model, presented at 2017 Fall Meeting, AGU, New Orleans, Louisiana, 11-15 Dec.
7. S. Ma, Y. Huang, J. Jiang, **D.M. Ricciuto**, P.J. Hanson, Y. Luo, Acclimation of methane production weakens ecosystem response to climate warming in a northern peatland, presented at 2017 Fall Meeting, AGU, New Orleans, Louisiana, 11-15 Dec.
8. X. Shi, **D.M. Ricciuto**, P.E. Thornton, P.J. Hanson, X. Xu, J. Mao, J. Warren, F. Yuan, R.J. Norby, S. Sebestyen, N. Griffiths, D.J. Weston, A. Walker, Representing northern peatland hydrology and biogeochemistry with the ALM land surface model, presented at 2017 Fall Meeting, AGU, New Orleans, Louisiana, 11-15 Dec.
9. S. Ma, Y. Huang, M. Stacy, J. Jiang, N. Sundi, **D.M. Ricciuto**, P.J. Hanson, Y. Luo, V. Saruta, EcoPAD, an interactive platform for near real-time ecological forecasting by assimilating data into model, presented at 2017 Fall Meeting, AGU, New Orleans, Louisiana, 11-15 Dec.
10. A.P. Walker, M. De Kauwe, D. Lu, B. Medlyn, R.J. Norby, **D.M. Ricciuto**, A. Rogers, S. Serbin, D.J. Weston, M. Ye, S. Zaehle, Multi-hypothesis modelling capabilities for robust data-model integration, presented at 2017 Fall Meeting, AGU, New Orleans, Louisiana, 11-15 Dec.

11. E. Cui, J. Xia, K. Huang, A. Ito, M.A. Arain, A.K. Jain, B. Poulter, C. Peng, D.J. Hayes, **D.M. Ricciuto**, D.N. Huntzinger, H. Tian, J. Mao, J. Fisher, K.M. Schaefer, M. Huang, S. Peng, W. Wang, Uncertainty source of modeled ecosystem productivity in East Asian Monsoon Region: A traceability analysis, presented at 2017 Fall Meeting, AGU, New Orleans, Louisiana, 11-15 Dec.
12. D. Wu, P. Ciais, N. Viovy, A. Knapp, K. Wilcox, M. Krohn, M.D. Smith, A. Ito, A. Arneeth, A.B. Harper, A. Ukkola, A. Paschalis, B. Poulter, C. Peng, C.H. Reick, D.J. Hayes, **D.M. Ricciuto**, D. Reinthaler, G. Chen, H. Tian, G. Helene, J. Zscheischler, J. Mao, J. Ingrisich, J. Nabel, J. Pongratz, L. Boysen, M. Kautz, M. Schmitt, et al., Asymmetric responses of primary productivity to altered precipitation across three long-term grassland sites., presented at 2017 Fall Meeting, AGU, New Orleans, Louisiana, 11-15 Dec.
13. X. Yang, P.E. Thornton, **D.M. Ricciuto**, X. Shi, M. Xu, F.M. Hoffman, R.J. Norby, Improving simulated spatial distribution of productivity and biomass in Amazon forests using the ACME land model, presented at 2017 Fall Meeting, AGU, New Orleans, Louisiana, 11-15 Dec.
14. X. Su, C. Song, Y. Wang, **D.M. Ricciuto**, D. Lipson, X. Shi, D. Zona, X. Song, F. Yuan, W.C. Oechel, P.E. Thornton, A microbial biogeochemistry network for soil carbon and nitrogen structure and application to Asia, presented at 2017 Fall Meeting, AGU, New Orleans, Louisiana, 11-15 Dec.
15. A.W. King, **D.M. Ricciuto**, J. Mao, R.J. Andres, Implications of uncertainty in fossil fuel emissions for terrestrial ecosystem modeling, presented at 2017 Fall Meeting, AGU, New Orleans, Louisiana, 11-15 Dec.
16. S.C. Kao, X. Shi, J. Kumar, **D.M. Ricciuto**, J. Mao, P.E. Thornton, Can Earth System models provide reasonable natural runoff estimates to support water management studies? Presented at 2017 Fall Meeting, AGU, New Orleans, Louisiana, 11-15 Dec.
17. K. Sargsyan, **D.M. Ricciuto**, C. Safta, P.E. Thornton, Embedded model error representation and propagation in climate models, presented at 2017 Fall Meeting, AGU, New Orleans, Louisiana, 11-15 Dec.
18. D. Lu, **D.M. Ricciuto**, K.J. Evans, Efficient data-worth analysis using a multilevel Monte Carlo method applied in oil reservoir simulations, presented at 2017 Fall Meeting, AGU, New Orleans, Louisiana, 11-15 Dec.
19. A.P. Walker, D. Lu, **D.M. Ricciuto**, A. Rogers, S. Serbin, M. Ye, X. Zheng, Multi-hypothesis modeling reveals the key processes influencing modeled CO₂ response of leaf-scale photosynthesis, presented at 2017 Fall Meeting, AGU, New Orleans, Louisiana, 11-15 Dec.
20. C. Safta, K. Sargsyan, **D.M. Ricciuto**, Machine learning techniques for global sensitivity analysis in climate models, presented at 2017 Fall Meeting, AGU, New Orleans, Louisiana, 11-15 Dec.
21. **D. Ricciuto**, D. Lu, X. Shi, J. Mao, A. King, P. Hanson, Sensitivity of simulated peatland carbon and energy flux warming responses to biogeochemical process and parameter uncertainty, ESS PI Meeting, Potomac, MD, April 2018.
22. **D. Ricciuto**, K. Sargsyan, Y. Marzouk, D. Lu, C. Safta, M. Stoyanov, K. Evans and Jayanthi Mohan, Optimization of sensor networks for climate models: Overview, progress and future plans, SciDAC PI Meeting, Rockville Maryland, July 2018.
23. X. Yang, P. Thornton, **D. Ricciuto**, F. Hoffman. Influence of phosphorus cycle coupling on carbon-climate feedbacks. American Geophysical Union fall meeting, San Francisco, CA., Dec. 2014.
24. A. King, **D. Ricciuto**, P. Thornton, D. Wang, J. Warren. Functional unit testing: An idea for evaluating ideas in terrestrial biogeochemistry. American Geophysical Union fall meeting, San Francisco, CA., Dec. 2014.
25. L. Zhang, J. Mao, X. Shi, **D. Ricciuto**, H. He, P. Thornton, G. Yu, S. Han, Y. Li, J. Yan, Y. Hao, H. Wang. Evaluation of the Community Land Model simulated carbon and water fluxes against observations over ChinaFLUX sites. American Geophysical Union fall meeting, San Francisco, CA., Dec. 2014.

26. C. Safta, K. Sargsyan, B. Debusschere, H. Najm, **D. Ricciuto**, P. Thornton. Parameter estimation in high-dimensional climate models. American Geophysical Union fall meeting, San Francisco, CA., Dec. 2014.
27. **D. Ricciuto**, J. Mao, X. Shi. Biogeophysical controls on land-atmosphere fluxes in the Community Earth System Model. American Geophysical Union fall meeting, San Francisco, CA., Dec. 2014.
28. Y. Liu, J. Matthes, D. Moore, M. Dietze, A. Arellano, A. Dawson, A. Fox, S. Goring, J. McLachlan, F. Montaine, G. Moreno, B. Poulter, T. Quaife, **D. Ricciuto**, K. Schaefer, J. Steinkamp, J. Williams, PaleON team. Assessing the long-term performance of terrestrial ecosystem models in the northeastern United States: Linking model structure and output. American Geophysical Union fall meeting, San Francisco, CA., Dec. 2014.
29. P. Thornton, D. Metcalfe, R. Oren, **D. Ricciuto**. Multiple independent controls help resolve net ecosystem carbon exchange under nutrient limitation. American Geophysical Union fall meeting, San Francisco, CA., Dec. 2014.
30. **D. Ricciuto**, J. Mao, X. Shi. Impacts of carbon cycle parameter uncertainty at key observation sites in North America in the Community Land Model. North American Carbon Program meeting, Washington, DC, January 2015.
31. D. Wang, **D.M. Ricciuto**, P.E. Thornton. Towards more efficient and modular terrestrial ecosystem model development. Presentation to DOE BER program managers, Germantown, MD, January 2015.
32. K. Sargsyan, C. Safta, H. Najm, B. Debusschere, **D. Ricciuto**, P. Thornton. High-dimensional surrogate model for UQ. ACME project meeting, May 2015.
33. P.J. Hanson, C.M. Iversen, **D.M. Ricciuto**, R.K. Kolka. Briefing on SPRUCE experiment to the USDA Forest service and CCIWG. Washington, D.C., March 2015
34. **D.M. Ricciuto**, X. Yang, P.E. Thornton. Improved performance of offline ALM simulations for testing and UQ. ACME project meeting, May 2015.
35. **D.M. Ricciuto**, J. Mao, R. Mei, X. Shi. Sensitivity of the Community Land Model to biogeophysical and biogeochemical parameters. 2015 International Workshop on quantifying uncertainties in Land Surface Models. Beijing, China, May 2015.
36. Y. Liu, C.R. Rollinson, M. Dietze, B. Poulter, T. Quaife, A. Raiho, **D.M. Ricciuto**, K. Schaefer, J. Steinkamp. Decomposing vegetation dynamics in ecosystem-model simulations and comparison with paleoecological observations. Ecological Society of America annual meeting, Baltimore, MD, Aug. 2015.
37. X. Yang, P.E. Thornton, **D.M. Ricciuto**, F.M. Hoffman, R.J. Norby. The role of phosphorus cycle in tropical ecosystem responses to changes in atmospheric CO₂ and climate. Ecological Society of America annual meeting, Baltimore, MD, Aug. 2015.
38. **D.M. Ricciuto**, J. Mao, R. Mei. Sensitivity of tropical forest carbon and energy fluxes to Community Land Model parameters. Ecological Society of America annual meeting, Baltimore, MD, Aug. 2015.
39. J. Mao, **D.M. Ricciuto**, X. Shi. Sensitivity of land-atmosphere fluxes to biogeophysical and biogeochemical parameters in the Community Land Model. Ecological Society of America annual meeting, Baltimore, MD, Aug. 2015.
40. Safta, C. **D.M. Ricciuto**, K. Sargsyan, H.N. Najm, B. Debusschere. Global Sensitivity Analysis and parameter calibration for an ecosystem carbon model. American Geophysical Union fall meeting, San Francisco, CA., Dec. 2013.
41. Walker, A.P., S. Zaehle, B.E. Medlyn, M.G. DeKauwe, S. Asao, T. Hickler, M.R. Lomas, B.C. Pak, W.J. Parton, S. Quegan, **D.M. Ricciuto**, Y. Wang, D. Warlnd, R.J. Norby. Vegetation turnover and nitrogen feedback drive temperate forest carbon sequestration in response to elevated CO₂. A multi-model structural analysis. American Geophysical Union fall meeting, San Francisco, CA., Dec. 2013.

42. Yang, X., P.E. Thornton, **D.M. Ricciuto**, X. Shi. Nutrient regulation of the tropical carbon cycle response to environmental change. American Geophysical Union fall meeting, San Francisco, CA., Dec. 2013.
43. Sargsyan, K., B. Debusschere, C. Safta, H.N. Najm, **D. Ricciuto**, P. Thornton. Bayesian Compressive Sensing Framework, SIAM conference on uncertainty quantification, Savannah, GA, April 2014.
44. **Ricciuto, D.M.**, K. Sargsyan, C. Safta, H. Najm, P. Thornton, D. Wang, A. Kong. The Community Land Model: Uncertainty Quantification. DOE Modeling PI meeting, Washington, DC. May 2014.
45. Shi, X., **D.M. Ricciuto**, P.E. Thornton, P.J. Hanson, J. Mao, S. Sebestyen and N.A. Griffiths, Modeling the Hydrological Dynamics of the SPRUCE S1 Bog. DOE TES PI meeting, Washington, DC, May 2014.
46. Xu, X., P.J. Hanson, **D.M. Ricciuto**, J.R. Phillips, X. Shi, J.S. Riggs, C.M. Iversen, D.J. Weston, L.A. Hook and P.E. Thornton, Integrating in-situ data with a model for examining community-level CO₂ and CH₄ flux in a carbon-rich peatland in northern Minnesota. DOE TES PI meeting, Washington, DC, May 2014.
47. Yang, X., P. E. Thornton, **D. M. Ricciuto**, X. Shi, and W. M. Post, "Interacting nutrient cycles in tropical forest ecosystems: a case study in the Amazon region", Powell Center tropical warming Working Group meeting, Fort Collins, CO, April 28 May 2, 2014
48. Yang, X., P. E. Thornton and **D. M. Ricciuto**, "Effects of root-induced processes in the rhizosphere on P cycling : a modeling study using CLM-CNP", Roots in Models workshop, Oak Ridge, TN, June 11-12, 2014
49. **Ricciuto, D.M.**, K. Sargsyan, C. Safta, H. Najm, P. Thornton, D. Wang, and A. King. Uncertainty Quantification: Roots and land models. Roots in Models workshop, Oak Ridge, TN, June 11-12, 2014
50. **Ricciuto, D.M.**, P.E. Thornton and ORNL team. Community Land Model: Long-term vision. Presented to BER program managers, Oak Ridge, TN, Oct. 2012.
51. Yang, X., W.M. Post, P.E. Thornton, **D.M. Ricciuto**. The role of phosphorous dynamics in tropical forests - a modeling study using CLM-CNP (invited). American Geophysical Union 2012 fall meeting, San Francisco, CA, Dec. 2012.
52. Haugen, B., B. Smith, C. Steed, **D.M. Ricciuto**, P.E. Thornton and G. Shipman. ParCAT: A parallel climate analysis toolkit. American Geophysical Union 2012 fall meeting, San Francisco, CA, Dec. 2012.
53. Yi, C., G.T. Rustic, S. Wei, A. Dookie, G.R. Hendrey, **D.M. Ricciuto**. Ecological consequences of climate extremes: A perfect deficit approach. American Geophysical Union 2012 fall meeting, San Francisco, CA, Dec. 2012.
54. **Ricciuto, D.M.**, C. Steed, B. Smith, P.E. Thornton. Ensemble model diagnostics: Parameter sensitivity. DataONE EVA working group meeting, Brooklyn, NY, Jan. 2013.
55. **Ricciuto, D.M.**, ORNL TES SFA team. Terrestrial carbon cycle models and data needs: A brief overview. EMSL workshop on belowground processes, Richland, WA, Feb. 2013.
56. **Ricciuto, D.M.**, J. Mao, P.E. Thornton. Sensitivity of site-level CLM simulations to input meteorology. CESM LMWG/UQ session. Boulder, CO, Feb. 2013.
57. Sargsyan, K., C. Safta, D. Ricciuto, B. Debusschere, H.N. Najm, P. Thornton. High dimensional polynomial chaos basis selection via Bayesian compressive sensing. CESM LMWG/UQ session. Boulder, CO, Feb. 2013.

58. Safta, C., K. Sargsyan, **D. Ricciuto**, B. Debusschere, H.N. Najm, P. Thornton. Dimensionality reduction and global sensitivity analysis for the Community Land Model. CESM LMWG/UQ session. Boulder, CO, Feb. 2013.
59. **Ricciuto, D.M.**, P.E. Thornton, D. Wang, J. Mao, J. Kumar, M. Branstetter, C. Steed, T. Barron and G. Shipman. Climate Science for a sustainable energy future: ORNL progress. CCSI advisory board meeting, Oak Ridge, TN, Mar. 2013.
60. **Ricciuto, D.M.**, CSSEF team. CSSEF: Progress towards an integrated testbed for CESM development, analysis and UQ. Joint TES/SBR investigators meeting, Washington, DC, May 2013.
61. Sargsyan, K., C. Safta, B. Debusschere, N. Najm, **D. Ricciuto**, P. Thornton. Uncertainty quantification in the community Land Model. CESM annual meeting, Breckenridge, CO, Jun. 2013.
62. **Ricciuto, D.M.**, L. Gu, A.W. King and W.M. Post. Data assimilation for model development. Presented at FORECAST conference, Woods Hole, MA, Oct. 2012.
63. **Ricciuto, D.M.**, A.W. King, L. Gu and W.M. Post. Data assimilation as a tool for model development. American Geophysical Union 2012 fall meeting, San Francisco, CA, Dec. 2012.
64. Wei, Y., R. Cook, W. Post, P. Thornton, D. Huntzinger, **D. Ricciuto**, D. Hayes, M. Thornton, S. Liu, A. Jacobson, K. Shaefer, K. Davis. A modeling and synthesis thematic data center for the North American Carbon Program. NACP investigators meeting, Albuquerque, NM, Feb. 2013.
65. **Ricciuto, D.M.**, A.W. King, J. Mao, P.E. Thornton. An ensemble global carbon cycle monitoring framework for calibration and uncertainty quantification. NACP investigators meeting, Albuquerque, NM, Feb. 2013.
66. J. Mao, P.E. Thornton, X. Shi, **D.M. Ricciuto**, G. Wang and P.J. Hanson. Development of CLM4 two-layer soil biogeochemical model using EBIS observations. CESM LMWG/UQ session. Boulder, CO, Feb. 2013.
67. Steed, C.A., **D. Ricciuto**, G.M. Shipman, B. Smith, D. Wang and P. Thornton. Exploratory data analysis environment (EDEN). CESM LMWG/UQ session. Boulder, CO, Feb. 2013.
68. Warren, J.M., C.M. Iversen, J. Mao, R.J. Norby, **D.M. Ricciuto**, P.E. Thornton, A. Walker. Partitioning in trees and soils (PiTS): A field research facility for testing dynamic carbon partitioning representations in global models – Seasonal patterns of C flow through dogwood, to mycorrhizal hyphae, and back to the atmosphere. CCSI advisory board meeting, Oak Ridge, TN, Mar. 2013.
69. J. Mao, D. Ricciuto, P.E. Thornton, J. Warren, R. Norby and C. Iversen. Performance of simulated C partitioning within CLM4 based on ¹³CO₂ and shading manipulations in a pine stand. CCSI advisory board meeting, Oak Ridge, TN, Mar. 2013.
70. X. Shi, W.M. Post, P.E. Thornton, J. Mao and D.M. Ricciuto. Evaluation of CLM4 litterfall based on the observed database. CCSI advisory board meeting, Oak Ridge, TN, Mar. 2013.
71. **Ricciuto, D.M.**, J. Mao, A.W. King, P.E. Thornton. Land model uncertainty quantification using observations and experiments. CCSI advisory board meeting, Oak Ridge, TN, Mar. 2013.
72. Yang, X., P.E. Thornton, **D.M. Ricciuto** and W.M. Post. Modeling P dynamics and P limitation on productivity in tropical forests. CCSI advisory board meeting, Oak Ridge, TN, Mar. 2013.
73. Steed, C.A., **D. Ricciuto**, G.M. Shipman, B. Smith and P.E. Thornton. Exploratory data analysis environment (EDEN). CCSI advisory board meeting, Oak Ridge, TN, Mar. 2013.

74. **Ricciuto, D.M.**, J. Mao, X. Shi, D.J. Hayes, A.W. King, P.E. Thornton. Parameter sensitivity and evaluation against benchmarks. Joint TES/SBR investigators meeting, Washington, DC, May 2013.
75. Shi, X., **D.M. Ricciuto**, P.E. Thornton, P.J. Hanson, G. Bisht and J. Mao. Development and testing the hydrological dynamics of vegetated wetland for CLM. Joint TES/SBR investigators meeting, Washington, DC, May 2013.
76. R. Archibald, S. Mahajan, J. Mao, B. Mayer, R. Mei, **D. Ricciuto**, X. Shi. Parameterization of the influence of subgrid scale land heterogeneity on convection in a climate model. CESM annual meeting, Breckenridge, CO, Jun. 2013.
77. Langan, R., R. Archibald, **D. Ricciuto**, C. Yang, R. Mei, J. Mao, B. Mayer, X. Shi. Stochastic representation of unresolved processes in climate models. RAMS student poster presentation, Oak Ridge, TN, Jul. 2013.

Funding

Funding organization: Department of Energy SciDAC (BER/ASCR)
Project title: Optimization of sensor networks for climate models
P.I. – **Daniel Ricciuto**
Performance period: September 2017 – Feb 2020
Total award amount: \$5,000,000

Funding organization: Department of Energy (SC/BER)
Project title: Accelerated Climate Model for Energy
P.I. – David Bader (Lawrence Livermore National Laboratory)
Institutional PI at ORNL: Peter Thornton
Performance period: June 1, 2014 – May 31, 2020
Total award amount: \$50,000,000

Funding organization: Department of Energy (SC/BER)
Project title: ORNL Terrestrial Ecosystem Science Scientific Focus Area
P.I. – Paul Hanson (Oak Ridge National Laboratory), co-P.I. **Daniel Ricciuto**
Performance Period: October 1, 2015 – September 30, 2019
Total award amount: \$33,000,000

Funding organization: ORNL (LDRD)
Project title: Use of sampling theory to improve predictions in Earth System Models
P.I. **Daniel Ricciuto** (Oak Ridge National Laboratory)
Performance period: October 1, 2016 – September 30, 2018
Total award amount: \$700,000

Funding organization: ORNL (LDRD)
Project title: Extreme events
P.I. Jeffrey Warren (Oak Ridge National Laboratory)
Performance period: October 1, 2015 – September 30, 2017
Total award amount: \$800,000

Funding organization: ORNL (LDRD)
Project title: Stochastic parameterization of the influence of subgrid scale land heterogeneity on convection in a climate model

P.I. **Daniel Ricciuto** (Oak Ridge National Laboratory)
Performance period: October 1, 2012 – September 30, 2015
Total award amount: \$800,000

Awards

1. Stanley Auerbach award for excellence Environmental Sciences, 2016
2. Norbert Gerbier-Mumm International Award by WMO for coauthorship on original scientific paper on the influence of meteorology on physical sciences, 2012

Service

1. Member, AmeriFlux Science Steering Group, 2014-2017
2. Co-writer for exam in meteorology for annual Science Olympiad Tennessee state finals competition, 2011-present.
3. Organizer for the SPRUCE model intercomparison project (SPRUCE-MIP)
4. Member of coordinating group for North American Carbon Program (NACP) interim site synthesis model intercomparison, 2008-present
5. Session co-chair for AGU session on NACP site interim synthesis (Biogeochemistry), 2009, and for AGU session on terrestrial controls of net ecosystem exchange, 2010.
6. Participant in team meeting for the Regional Flux Estimation Experiment (REFLEX), comparison of data assimilation methodologies, 2008
7. Member, American Meteorological society, Smoky Mountains Chapter (2009-present)

Collaborators

Kenneth Davis (Penn State University), Klaus Keller (Penn State University), Michael Dietze (U. Illinois), Habib Najm (Sandia National Laboratory), Cosmin Safta (Sandia National Laboratory), Khachik Sargsyan (Sandia National Laboratory), Ruby Leung (Pacific Northwest National Laboratory), Maoyi Huang (Pacific Northwest National Laboratory), Chuixiang Yi (Queens College), Beth Drewniak (Argonne National Laboratory), Paul Hovland (Argonne National Laboratory), William Riley (Lawrence Berkeley National Laboratory), Christopher Schwalm (U. Northern Arizona), Danilo Dragoni (U. Indiana)

Graduate and Postdoctoral Advisees

Chengen Yang (University of Tennessee) – co-advising with Jiafu Mao under ORNL TES SFA (2014-)
Rui Mei (ORNL) – advised under ORNL LDRD and TES SFA (2014-2015)
Dan Lu (ORNL) – advising under ORNL TES SFA (2015-)
Oleksandra Hararuk (University of Oklahoma) – served on PhD committee (2013-2014)