

LIFETIME

PUBLICATIONS: (i)

Peer-Reviewed:

(c) *Published Journal Articles:*

1. Huang S., Bartlett P., **Arain M.A.**, 2016. Assessing nitrogen controls on carbon, water and energy exchanges in major plant functional types across North America using a carbon and nitrogen coupled ecosystem model. *Ecological Modelling* 323 (2016) 12-27. <http://dx.doi.org/10.1016/j.ecolmodel.2015.11.020>.
2. Chen B., **Arain M.A.**, Chen J.M., Croft H., Grant R.F., Kurz W.A., Bernier P., Guindon L., Price D., Wang Z., 2016. Evaluating the impacts of climate variability and cutting and insect defoliation on the historical carbon dynamics of a boreal black spruce forest landscape in eastern Canada. *Ecological Modelling*, 321(10): 98-109. doi:10.1016/j.ecolmodel.2015.11.011.
3. Verma M., M.A. Friedl, B.E. Law, D. Bonal, G. Kiely, T.A. Black, G. Wohlfahrt, E.J. Moors, L. Montagnani, B. Marcolla, P. Toscano, A. Varlagin, O. Roupsard, A. Cescatti, **M.A. Arain**, P. D'Odoricos. 2015. Improving the performance of remote sensing models for capturing intra- and inter-annual variations in daily GPP: An analysis using global FLUXNET tower data Improving the performance of remote sensing models for capturing intra- and inter-annual variations in daily GPP: An analysis using global FLUXNET tower data. *Agricultural and Forest Meteorology*, 214-215: 416-429.
4. Skubel, R., **Arain, M. A.**, Peichl, M., Brodeur, J. J., Khomik, M., Thorne, R., Trant, J., and Kula, M., 2015. Age effects on the water-use efficiency and water-use dynamics of temperate pine plantation forests. *Hydrological Processes*. 29(18): 4100-4113. doi: 10.1002/hyp.10549.
5. Thorne R., and **Arain M.A.**, 2015. Influence of Low Frequency Variability on Climate and Carbon Fluxes in a Temperate Pine Forest in Eastern Canada. *Forests*, 6(8): 2762-2784; doi:10.3390/f6082762.
6. Mao J., Fu W., Shi X., Ricciuto D.M., Fisher J.B., Dickinson R.E., Wei Y., Shem W., Piao S., Wang K., Schwalm C.R., Tian H., Mu M, **Arain A.**, Ciais P., Cook R., Dai Y., Hayes D., Hoffman F.M., Huang M., Huang S., Huntzinger D.N., Ito A., Jain A., King A.W., Lei H., Lu C., Michalak A.M., Parazoo N., Peng C., Peng S., Poulter B., Schaefer K., Jafarov E., Thornton P.E., Wang W., Zeng N., Zeng Z., Zhao F., Zhu Q., Zhu Z., 2015. Disentangling climatic and anthropogenic controls on global terrestrial evapotranspiration trends. *Environmental Research Letters*, 10: 094008. doi:10.1088/1748-9326/10/9/094008
7. Xia, J., S. Niu, P. Ciais, I. A. Janssens, J. Chen, C. Ammann, **A. Arain**, P. D. Blanken, A. Cescatti, D. Bonal, N. Buchmann, P. S. Curtis, S. Chen, J. Dong, L. B. Flanagan, C. Frankenberg, T. Georgiadis, C. M. Gough, D. Hui, G. Kiely, J. Li, M. Lund, V. Magliulo, B. Marcolla, L. Merbold, L. Montagnani, E. J. Moors, J. E. Olesen, S. Piao, A. Raschi, O. Roupsard, A. E. Suyker, M. Urbaniak, F. P. Vaccari, A. Varlagin, T. Vesala, M. Wilkinson, E. Weng, G. Wohlfahrt, L. Yan, and Y. Luo. 2015. Joint control of terrestrial gross primary productivity by plant phenology and physiology. *Proceedings of the National Academy of Sciences* 112:2788-2793.

8. Huntzinger, D.N., C.R. Schwalm, Y. Wei, R.B. Cook, A.M. Michalak, K. Schaefer, A.R. Jacobson, **M.A. Arain**, P. Ciais, J.B. Fisher, D.J. Hayes, M. Huang, S. Huang, A. Ito, A.K. Jain, H. Lei, C. Lu, F. Maignan, J. Mao, N. Parazoo, C. Peng, S. Peng, B. Poulter, D.M. Ricciuto, H. Tian, Xiaoying Shi, W. Wang, N. Zeng, F. Zhao, and Q. Zhu (2015). NACP MsTMIP: Global 0.5-deg Terrestrial Biosphere Model Outputs (version 1) in Standard Format. Data set. Available on-line [<http://daac.ornl.gov>] from Oak Ridge National Laboratory Distributed Active Archive Center, Oak Ridge, Tennessee, USA. DOI: 10.3334/ORNLDAAC/1225.
9. Yuan, W.P., S.L. Liu, W.C. Cai, W.D. Dong, J. Chen, **A. Arain**, P.B. Blanken, A.C. Cescatti, W.G. Georg, T.G. Georgiadis, L.G. Genesio, D.G. Gianelle, A.G. Grelle, G.K. Kiely, A.K. Knohl, D.L. Liu, M.M. Marek, L.M. Merbold, L.M. Montagnani, O.P. Panferov, M.P. Peltoniemi, S.R. Rambal, A.R. Raschi, A.V. Varlagin, and J.X. Xia. 2014. Vegetation-specific model parameters are not required for estimating gross primary production? *Ecological Modelling*, 292(24): 1–10. doi:10.1016/j.ecolmodel.2014.08.017
10. Yuan W.P., Cai W., Xia, J., Chen J., Liu S., Dong W., Merbold L., Law B., **Arain A.**, Beringer J., Bernhofer J., Black A., Blanken P.D., Cescatti A., Chen Y., Francois L., Gianelle D., Janssen I.A., Jung M., Kato T, Kiely G., Liu D., Marcolla B., Montagnani L., Raschi A., Rouspard O., Varlagin A., Wohlfahrt G., 2014. Global comparison of light use efficiency models for simulating terrestrial vegetation gross primary production based on the LaThuile database. *Agricultural and Forest Meteorology* 192–193 (2014) 108–120. <http://dx.doi.org/10.1016/j.agrformet.2014.03.007>
11. He L., Chen J.M, Liu J., Mo G., Bélair S., Zheng T., Wang R., Chen B., Croft H., **Arain M.A.**, and Barr A.G., 2014. Optimization of water uptake and photosynthetic parameters in an ecosystem model using tower flux data. *Ecological Modelling* 294: 94–104. <http://dx.doi.org/10.1016/j.ecolmodel.2014.09.019>
12. Chang K-H., Warland J.S., Bartlett P.A., **Arain M.A.**, and Yuan F, 2014. A simple crop phenology algorithm improves the carbon cycle simulation in land surface model: CN-CLASS. *Agronomy Journal*, 106: 297–308. doi:10.2134/agronj2013.0164.
13. Xiao, J., S. V. Ollinger, S. Froking, G. C. Hurtt, D. Y. Hollinger, K. J. Davis, Y. Pan, X. Zhang, F. Deng, J. Chen, D. D. Baldocchi, B. E. Law, **M. A. Arain**, A. R. Desai, A. D. Richardson, G. Sun, B. Amiro, H. Margolis, L. Gu, R. L. Scott, P. D. Blanken, and A. E. Suyker. 2014. Data-driven diagnostics of terrestrial carbon dynamics over North America. *Agricultural and Forest Meteorology* 197:142-157.
14. Kasurinen, V.; Alfredsen, K.; Kolari, P.; Mammarella, I.; Alekseychik, P.; Rinne, J.; Vesala, T.; Bernier, P.; Boike, J.; Langer, M.; Marchesini, L.B.; van Huissteden, K.; Dolman, H.; Sachs, T.; Ohta, T.; Varlagin, A.; Rocha, A.; **Arain, A.**; Oechel, W.; Lund, M.; Grelle, A.; Lindroth, A.; Black, A.; Aurela, M.; Laurila, T.; Lohila, A.; Berninger, F., 2014. Latent heat exchange in the boreal and arctic biomes. *Global Change Biology*, 20(11), 3439-3456.
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16. Camino-Serrano M., Gielen B., Luysaert S., Ciais P., Vicca S., Guenet B., De Vos B., Cools N., Ahrens B., **Arain M.A.**, Borken W., Clarke N., Clarkson B., Cummins T., Don A., Pannatier E.G., Laudon H., Moore T., Nieminen T.M, Nilsson M.B., Peichl M., Schwendenmann L., Siemens J., and Janssens I., 2014. Linking variability in soil solution dissolved organic carbon to climate, soil type, and vegetation type. *Global Biogeochemical Cycles*, 25(5): 497–509.

17. Wu H, Peng C., Moore T.R., Hua D., Li C., Zhu Q., Peichl M., **Arain M.A.**, and Guo Z., 2014. Modeling dissolved organic carbon in temperate forest soils: TRIPLEX-DOC model development and validation. *Geoscientific Model Development*, 7:867-881.
18. Mallick K., Jarvis A.J., Boegh E., Fisher J.B., Drewry D.T., Tu K.P., Hook S.J., Hulley G., Ardö J., Beringer J., **Arain A.**, Niyogi D., 2014. A Surface Temperature Initiated Closure (STIC) for surface energy balance fluxes. *Remote Sensing of Environment* 141: 243–261. doi.org/10.1016/j.rse.2013.10.022.
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20. Christoffersen BO, Restrepo-Coupe N, **Arain MA**, Baker IT, Cestaro BP, Ciais P, Fisher JB, Galbraith D, Guan X, Gulden L, van den Hurk B, Ichii K, Imbuzeiro H, Jain A, Levine N, Miguez-Macho G, Poulter B, Roberti DR, Sakaguchi K, Sahoo A, Schaefer K, Shi M, Verbeeck H, Yang Z-L, Araújo AC, Kruijt B, Manzi AO, da Rocha HR, von Randow C, Muza MN, Borak J, Costa MH, Gonçalves de Gonçalves LG, Zeng X, Saleska SR. 2014. Mechanisms of water supply and vegetation demand govern the seasonality and magnitude of evapotranspiration in Amazonia and Cerrado. *Agricultural and Forest Meteorology* 191(0): 33-50.
21. Vicca, S; Bahn, M; Estiarte, M; Alberti, G; Ambus, P; **Arain, MA**; Beier, C; Bentley, L; Borken, W; Buchmann, N; Collins, S; de Dato, G; Dukes, J; Escolar, C; Fay, P; Guidolotti, G; Hanson, P; Kahmen, A; Kroel-Dulay, G; Ladreiter-Knauss, T; Larsen, K; Lellei-Kovacs, E; Lebrija-Trejos, E; Maestre, FT; Marhan, S; Marshall, M; Meir, P; Miao, Y; Muhr, J; Niklaus, P; Ogaya, R; Penuelas, J; Poll, C; Rustad, L; Savage, K; Schindlbacher, A; Schmidt, IK; Smith, A; Sotta, E; Suseela, V; Tietema, A; van Gestel, N; van Loon, EE; van Straaten, O; Vargas, R; Wan, S; Weber, U; Janssens, I: 2014. Can current moisture responses of soil respiration be extrapolated into the future? A synthesis of precipitation manipulation experiments, *Biogeosciences*, 11, 2991-3013, doi:10.5194/bg-11-2991-2014
22. Zha, T.S., A.G. Barr, P.-Y. Bernier, M.B. Lavigne, J.A. Trofymow, B.D. Amiro, **M.A. Arain**, J.S. Bhatti, T.A. Black, H.A. Margolis, J.H. McCaughey, Z.S. Xing, K.C.J. Van Rees, C. Coursolle, 2013. Gross and aboveground net primary production at Canadian forest carbon flux sites. *Agricultural and Forest Meteorology* 174-175: 54-64. doi.org/10.1016/j.agrformet.2013.02.004.
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34. MacKay S.L., **Arain M.A.**,_Khomik M., Brodeur J.J., Schumacher J., Hartmann H., and Peichl M., 2012. The impact of induced drought on transpiration and growth in a temperate pine plantation forest. *Hydrological Processes*. 26(12), 1779-1791. doi: 10.1002/hyp.9315.
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