

Curriculum Vitae
Anthony P. Walker
walkerap@ornl.gov

www.ornl.gov/staff-profile/anthony-p-walker | orcid.org/0000-0003-0557-5594

Education:

University of Sheffield, Sheffield, UK, Ph.D. Computational Ecosystem Ecology, 2012
Imperial College, London, UK, M.Sc. (distinction) Sustainable Agriculture & Rural Development, 2004
University of Sheffield, Sheffield, UK, B.Sc. Plant Science, 1999

Professional Experience:

2020 – Present Ecosystem Processes Group Leader & Senior Staff Scientist, Oak Ridge National Laboratory, Oak Ridge, TN, USA.
• PI FACE-MDS project, Lab-lead NGEE-Tropics project, Task-lead TES-SFA project
2017 – 2020 Staff Scientist, Oak Ridge National Laboratory, Oak Ridge, TN, USA.
• PI FACE-MDS project, Lab-lead NGEE-Tropics project, Task-lead TES-SFA project
2014 – 2017 Associate Staff Scientist, Oak Ridge National Laboratory, Oak Ridge, TN, USA.
• Co-PI FACE-MDS project, Task-lead TES-SFA project
2012 – 2014 Post-Doctoral Research Associate, Oak Ridge National Laboratory, Oak Ridge, TN, USA.
2011 Policy Fellowship with Commons S&T Select Committee, UK Parliament, London, UK.
2008 – 2012 Director & Treasurer, Friends of Lynwood Gardens, Sheffield, UK.
2005 – 2006 Environmental Project Manager, Green Estates Ltd, Sheffield, UK.
2004 Post-Masters Research Associate, Universität Hohenheim, Stuttgart, Germany.
1999 – 2001 Farm Worker, Purton House Organic Farm, Purton, UK.

Funding Awards:

FACE Model Data Synthesis Phase 3, \$1,050,000 over 3 years, awarded 2019, PI
NGEE-Tropics Phase 2, \$28,000,000 over 4 years, awarded 2019, ORNL lead, task lead
ORNL TES-SFA renewal, \$33,000,000 over 4 years, awarded 2019, task lead
FACE Model Data Synthesis Phase 2, \$830,000 over 2 years, awarded 2017, PI
Economic and environment model fusion, \$10,000, awarded 2016, PI
FACE Model Data Synthesis project, \$700,000 over 2 years, awarded 2014, Co-PI
NGEE-Tropics Phase 1, \$18,000,000 over 3 years, awarded 2015, contributed to proposal
ORNL TES-SFA renewal, \$25,500,000 over 3 years, awarded 2015, contributed to proposal
Three student travel awards, totalling £2,000, awarded 2004, 2009, and 2011
Congelow Organic Educational Trust MSc. Scholarship, £3,000, awarded 2003

Synergistic Activities:

Organised meetings & workshops:

Evening Ignite session on disturbance at 2019 Joint TES-SBR DOE PI Meeting.
Integrating CO₂ Fertilisation Evidence Streams and Theory, ICOFEST, 17-21 September 2018, Biosphere II, AZ.
Multiple AGU Fall Meeting session organised, 2019 (2 sessions), 2017, 2016, 2015.
Two ESA Annual Meeting sessions, 2018 integrating evidence for CO₂ fertilisation, 2014 fine-roots in models.
Three international FACE-MDS project meetings, 2013, 2014, 2016.

Invited talks & workshops:

CO₂ and Crop Production, *Climate Change, Agriculture, Water, and Food Security: What We Know and Don't Know*, MIT, Boston, MA, May 2018.
Multi-hypothesis modelling capabilities for robust data-model integration. *AGU Fall Meeting*, New Orleans, LA, December, 2017, B13L-07
A novel modelling framework and method for model process representation sensitivity analysis. *Joint NACP and Ameriflux PI Meeting*. Washington DC, March, 2017. Plenary talk
AmazonFACE Model-Experiment Integration meeting, Manaus, Brazil, October 2016.

Phosphorus Modelling meeting, Townsend, TN, June 2016.

Multi-Scale Economics Methodologies and Scenarios Workshop, College Park, DC, April 2016.

Running before we can walk. *ESA annual meeting*, Baltimore, MD, August, 2015. Ignite talk

Model-data synthesis of ecosystem responses to elevated CO₂: From deserts to temperate forests of the US. *Joint TES & SBR PI meeting*, Washington, May, 2014.

Model-experiment synthesis at two FACE sites in the southeastern US: Forest ecosystem responses to elevated CO₂. *AGU Fall Meeting*, San Francisco, CA, December, 2013, B13M-01.

A model-data synthesis of ecosystem responses to elevated CO₂ at two FACE sites in the south eastern US. *NACP All Investigators Meeting*, Albuquerque, NM, February, 2013.

Reviewer for: DOE funding proposals, Science, Nature, Nature Climate Change, PNAS, New Phytologist, Ecology Letters, Geophysical Research Letters, Global Change Biology, Geoscientific Model Development, JGR-Biogeosciences, Biogeosciences, Ecological Modelling, Ecology

Membership: User Working Group for NASA's ORNL DAAC, American Geophysical Union, Ecological Society of America

Advisor to:

Liz Agee (current post-doc), Matt Craig (current post-doc), Yao Liu (former post-doc, now Senior Lecturer, University of Northumbria, UK), Abigail Johnson (former research assistant, UNC Graduate Student, recipient of Provost Fellowship Award), Xueming Zheng (former research assistant), Joanna Scales (former research assistant, PhD student Rothamsted Research)

Collaborators and Co-authors:

Martin De Kauwe (University New South Wales, Australia), Lianhong Gu (ORNL), Colleen Iversen (ORNL), Paul Hanson (ORNL), Mark Lomas (University of Sheffield, UK), Dan Lu (ORNL), Belinda Medlyn (Western Sydney University, Australia), Richard Norby (ORNL), Daniel Ricciuto (ORNL), Alistair Rogers (BNL), Edmund Ryan (University of Lancaster), Shawn Serbin (BNL), Jeff Warren (ORNL), David Weston (ORNL), Ming Ye (Florida State), Sönke Zaehle (Max Planck Institute for Biogeochemistry, Germany).

Graduate and Postdoctoral Advisors and Advisees:

Georg Cadisch (Universität Hohenheim, Germany, MSc Advisor)

Chris Huntingford (CEH, UK, PhD Co-Advisor)

Richard Norby (ORNL, USA, Post-Doctoral Advisor)

Ian Woodward (University of Sheffield, UK, PhD Advisor)

Publications (chronological):

Accepted

Walker, A.P., De Kauwe, M.G., Bastos, A., Belmecheri, S., Georgiou, K., Keeling, R., McMahon, S.M., Medlyn, B.E., Moore, D.J.P., Norby, R.J., Zaehle, S., Anderson-Teixeira, K.J., Battipaglia, G., Brienen, R.J.W., Cabugao, K.G., Cailleret, M., Campbell, E., Canadell, J., Ciais, P., Craig, M.E., Ellsworth, D., Farquhar, G., Faticchi, S., Fisher, J.B., Frank, D., Graven, H., Gu, L., Haverd, L., Heilman, K., Heimann, M., Hungate, B.A., Iversen, C.M., Joos, F., Jiang, M., Keenan, T.F., Knauer, J., Körner, C., Leshyk, V.O., Leuzinger, S., Liu, Y., MacBean, N., Malhi, Y., McVicar, T., Penuelas, J., Pongratz, J., Powell, S., Riutta, T., Sabot, M.E.B., Schleucher, J., Sitch, S., Smith, W.K., Sulman, B., Taylor, B., Terrer, C., Torn, M.S., Treseder, K., Trugman, A.T., Trumbore, S., van Mantgem, P.J., Voelker, S.L., Whelan, M., Zuidema, P.A. Accepted. Integrating the evidence for a terrestrial carbon sink caused by increasing atmospheric CO₂.

New Phytologist.

Walker, A.P., Johnson, A.L., Rogers, A., Anderson, J., Bridges, R.A., Fisher, R.A., Lu, D., Ricciuto, D.M., Serbin, S.P., Ye, M.. Accepted. Multi-hypothesis comparison of Farquhar and Collatz photosynthesis models reveals the unexpected influence of empirical assumptions at leaf and global scales. *Global Change Biology*

2020

McDowell, N.G., Allen, C.D., Anderson-Teixeira, K., Aukema, B.H., Bond-Lamberty, B., Chini, L., Clark, J.S., Dietze, M., Grossiord, C., Hanbury-Brown, A., Hurtt, G.C., Jackson, R.B., Johnson, D.J., Kueppers, L., Lichstein, J.W., Ogle, K., Poulter, B., Pugh, T.A.M., Seidl, R., Turner, M.G., Uriarte, M., **Walker, A.P.**, Xu, C., 2020. Pervasive shifts in forest dynamics in a changing world. *Science* 368.

Koven, C.D., Knox, R.G., Fisher, R.A., Chambers, J.Q., Christoffersen, B.O., Davies, S.J., Detto, M., Dietze, M.C., Faybishenko, B., Holm, J., Huang, M., Kovenock, M., Kueppers, L.M., Lemieux, G., Massoud, E., McDowell, N.G., Muller-Landau, H.C., Needham, J.F., Norby, R.J., Powell, T., Rogers, A., Serbin, S.P., Shuman, J.K., Swann, A.L.S., Varadharajan, C., **Walker, A.P.**, Wright, S.J., Xu, C., 2020. Benchmarking and parameter sensitivity of physiological and vegetation dynamics using the Functionally Assembled Terrestrial Ecosystem Simulator (FATES) at Barro Colorado Island, Panama. *Biogeosciences* 17, 3017–3044.

Bastos, A., O'Sullivan, M., Ciais, P., Makowski, D., Sitch, S., Friedlingstein, P., Chevallier, F., Rödenbeck, C., Pongratz, J., Luijkx, I.T., Patra, P.K., Peylin, P., Canadell, J.G., Lauerwald, R., Li, W., Smith, N.E., Peters, W., Goll, D.S., Jain, A.K., Kato, E., Lienert, S., Lombardozzi, D.L., Haverd, V., Nabel, J.E.M.S., Poulter, B., Tian, H., **Walker, A.P.**, Zaehle, S., 2020. Sources of Uncertainty in Regional and Global Terrestrial CO₂ Exchange Estimates. *Global Biogeochemical Cycles* 34, e2019GB006393.

Jung, M., Schwalm, C., Migliavacca, M., Walther, S., Camps-Valls, G., Koirala, S., Anthoni, P., Besnard, S., Bodesheim, P., Carvalhais, N., Chevallier, F., Gans, F., Goll, D.S., Haverd, V., Köhler, P., Ichii, K., Jain, A.K., Liu, J., Lombardozzi, D., Nabel, J.E.M.S., Nelson, J.A., O'Sullivan, M., Pallandt, M., Papale, D., Peters, W., Pongratz, J., Rödenbeck, C., Sitch, S., Tramontana, G., **Walker, A.**, Weber, U., Reichstein, M., 2020. Scaling carbon fluxes from eddy covariance sites to globe: synthesis and evaluation of the FLUXCOM approach. *Biogeosciences* 17, 1343–1365.

2019

Hanson, P.J., **Walker, A.P.**, 2020. Advancing global change biology through experimental manipulations: Where have we been and where might we go? *Global Change Biology* 26, 287–299.

Kattge, J., Bönsch, G., Díaz, S., Lavorel, S., Prentice, I.C., Leadley, P., Tautenhahn, S., Werner, G.D.A., ..., **Walker, A.P.**, ..., Wirth, C., 2020. TRY plant trait database – enhanced coverage and open access. *Global Change Biology* 26, 119–188.

Fleischer, K., Rammig, A., Kauwe, M.G.D., **Walker, A.P.**, Domingues, T.F., Fuchslueger, L., Garcia, S., Goll, D.S., Grandis, A., Jiang, M., Haverd, V., Hofhansl, F., Holm, J.A., Kruijt, B., Leung, F., Medlyn, B.E., Mercado, L.M., Norby, R.J., Pak, B., Randow, C. von, Quesada, C.A., Schaap, K.J., Valverde-Barrantes, O.J., Wang, Y.-P., Yang, X., Zaehle, S., Zhu, Q., Lapola, D.M., 2019. Amazon forest response to CO₂ fertilization dependent on plant phosphorus acquisition. *Nature Geoscience* 12, 736–741.

- Jiang, M., Zaehle, S., Kauwe, M.G.D., **Walker, A.P.**, Caldararu, S., Ellsworth, D.S., Medlyn, B.E., 2019. The quasi-equilibrium framework revisited: analyzing long-term CO₂ enrichment responses in plant–soil models. *Geoscientific Model Development* 12, 2069–2089.
- Chen, W., Zhu, D., Huang, C., Ciais, P., Yao, Y., Friedlingstein, P., Sitch, S., Haverd, V., Jain, A.K., Kato, E., Kautz, M., Lienert, S., Lombardozzi, D., Poulter, B., Tian, H., Vuichard, N., **Walker, A.P.**, Zeng, N., 2019. Negative extreme events in gross primary productivity and their drivers in China during the past three decades. *Agricultural and Forest Meteorology* 275, 47–58.
- Fisher, R.A., Wieder, W.R., Sanderson, B.M., Koven, C.D., Oleson, K.W., Xu, C., Fisher, J.B., Shi, M., **Walker, A.P.**, Lawrence, D.M., 2019. Parametric Controls on Vegetation Responses to Biogeochemical Forcing in the CLM5. *Journal of Advances in Modeling Earth Systems* 11, 2879–2895.
- Massoud, E.C., Xu, C., Fisher, R.A., Knox, R.G., **Walker, A.P.**, Serbin, S.P., Christoffersen, B.O., Holm, J.A., Kueppers, L.M., Ricciuto, D.M., Wei, L., Johnson, D.J., Chambers, J.Q., Koven, C.D., McDowell, N.G., Vrugt, J.A., 2019. Identification of key parameters controlling demographically structured vegetation dynamics in a land surface model: CLM4.5(FATES). *Geoscientific Model Development* 12, 4133–4164.
- Walker, A.P.**, Kauwe, M.G.D., Medlyn, B.E., Zaehle, S., Iversen, C.M., Asao, S., Guenet, B., Harper, A., Hickler, T., Hungate, B.A., Jain, A.K., Luo, Y., Lu, X., Lu, M., Luus, K., Megonigal, J.P., Oren, R., Ryan, E., Shu, S., Talhelm, A., Wang, Y.-P., Warren, J.M., Werner, C., Xia, J., Yang, B., Zak, D.R., Norby, R.J., 2019. Decadal biomass increment in early secondary succession woody ecosystems is increased by CO₂ enrichment. *Nature Communications* 10, 454.

2018

- Walker, A.P.**, Ye, M., Lu, D., Kauwe, M.G.D., Gu, L., Medlyn, B.E., Rogers, A., Serbin, S.P., 2018. The multi-assumption architecture and testbed (MAAT v1.0): R code for generating ensembles with dynamic model structure and analysis of epistemic uncertainty from multiple sources. *Geoscientific Model Development* 11, 3159–3185.
- Walker, A.P.**, 2018. A scalable multi-process model of root nitrogen uptake. *New Phytologist* 218, 8–11.
- Le Quéré, C., Andrew, R.M., Friedlingstein, P., Sitch, S., Hauck, J., Pongratz, J., Pickers, P.A., Korsbakken, J.I., Peters, G.P., Canadell, J.G., Arneeth, A., Arora, V.K., Barbero, L., Bastos, A., Bopp, L., Chevallier, F., Chini, L.P., Ciais, P., Doney, S.C., Gkritzalis, T., Goll, D.S., Harris, I., Haverd, V., Hoffman, F.M., Hoppema, M., Houghton, R.A., Hurtt, G., Ilyina, T., Jain, A.K., Johannessen, T., Jones, C.D., Kato, E., Keeling, R.F., Goldewijk, K.K., Landschützer, P., Lefèvre, N., Lienert, S., Liu, Z., Lombardozzi, D., Metzl, N., Munro, D.R., Nabel, J.E.M.S., Nakaoka, S., Neill, C., Olsen, A., Ono, T., Patra, P., Peregon, A., Peters, W., Peylin, P., Pfeil, B., Pierrot, D., Poulter, B., Rehder, G., Resplandy, L., Robertson, E., Rocher, M., Rödenbeck, C., Schuster, U., Schwinger, J., Séférian, R., Skjelvan, I., Steinhoff, T., Sutton, A., Tans, P.P., Tian, H., Tilbrook, B., Tubiello, F.N., Laan-Luijkx, I.T. van der, Werf, G.R. van der, Viovy, N., **Walker, A.P.**, Wiltshire, A.J., Wright, R., Zaehle, S., Zheng, B., 2018. Global Carbon Budget 2018. *Earth System Science Data* 10, 2141–2194.

2017

- Walker, A.P.**, McCormack, M.L., Messier, J., Myers-Smith, I.H., Wullschleger, S.D., 2017. Trait covariance: the functional warp of plant diversity? *New Phytologist* 216, 976–980.
- Griffiths, N.A., Hanson, P.J., Ricciuto, D.M., Iversen, C.M., Jensen, A.M., Malhotra, A., McFarlane, K.J., Norby, R.J., Sargsyan, K., Sebestyen, S.D., Shi, X., **Walker, A.P.**, Ward, E.J., Warren, J.M., Weston, D.J., 2017. Temporal and Spatial Variation in Peatland Carbon Cycling and Implications for Interpreting Responses of an Ecosystem-Scale Warming Experiment. *Soil Science Society of America Journal* 81, 1668–1688.
- Le Quéré, C., Andrew, R.M., Friedlingstein, P., Sitch, S., Pongratz, J., Manning, A.C., Korsbakken, J.I., Peters, G.P., Canadell, J.G., Jackson, R.B., Boden, T.A., Tans, P.P., Andrews, O.D., Arora, V.K., Bakker, D.C.E., Barbero, L., Becker, M., Betts, R.A., Bopp, L., Chevallier, F., Chini, L.P., Ciais, P., Cosca, C.E., Cross, J., Currie, K., Gasser, T., Harris, I., Hauck, J., Haverd, V., Houghton, R.A., Hunt, C.W., Hurtt, G., Ilyina, T., Jain, A.K., Kato, E., Kautz, M., Keeling, R.F., Klein Goldewijk, K., Körtzinger, A., Landschützer, P., Lefèvre, N., Lenton, A., Lienert, S., Lima, I., Lombardozzi, D., Metzl, N., Millero, F., Monteiro, P.M.S., Munro, D.R., Nabel, J.E.M.S., Nakaoka, S., Nojiri, Y., Padin, X.A., Peregon, A., Pfeil, B., Pierrot, D., Poulter, B., Rehder, G., Reimer, J., Rödenbeck, C., Schwinger, J., Séférian, R., Skjelvan, I., Stocker,

- B.D., Tian, H., Tilbrook, B., Tubiello, F.N., Laan-Luijckx, I.T. van der, Werf, G.R. van der, Heuven, S. van, Viovy, N., Vuichard, N., **Walker, A.P.**, Watson, A.J., Wiltshire, A.J., Zaehle, S., Zhu, D., 2018. Global Carbon Budget 2017. *Earth System Science Data* 10, 405–448.
- Lu, D., Ricciuto, D., **Walker, A.P.**, Safta, C., Munger, W., 2017. Bayesian calibration of terrestrial ecosystem models: a study of advanced Markov chain Monte Carlo methods. *Biogeosciences* 14, 4295–4314.
- Walker, A.P.**, Carter, K.R., Gu, L., Hanson, P.J., Malhotra, A., Norby, R.J., Sebestyen, S.D., Wullschlegel, S.D., Weston, D.J., 2017. Biophysical drivers of seasonal variability in Sphagnum gross primary production in a northern temperate bog. *JGR Biogeosciences* 122, 2016JG003711.
- Walker, A.P.**, Quaipe, T., van Bodegom, P.M., De Kauwe, M.G., Keenan, T.F., Joiner, J., Lomas, M.R., MacBean, N., Xu, C., Yang, X., Woodward, F.I., 2017. The impact of alternative trait-scaling hypotheses for the maximum photosynthetic carboxylation rate (V_{cmax}) on global gross primary production. *New Phytologist* 215, 1370–1386.
- Dai, H., Ye, M., **Walker, A.P.**, Chen, X., 2017. A new process sensitivity index to identify important system processes under process model and parametric uncertainty. *Water Resources Research* 53, 3476–3490.
- De Kauwe, M.G., Medlyn, B.E., **Walker, A.P.**, Zaehle, S., Asao, S., Guenet, B., Harper, A.B., Hickler, T., Jain, A.K., Luo, Y., Lu, X., Luus, K., Parton, W.J., Shu, S., Wang, Y.-P., Werner, C., Xia, J., Pendall, E., Morgan, J.A., Ryan, E.M., Carrillo, Y., Dijkstra, F.A., Zelikova, T.J., Norby, R.J., 2017. Challenging terrestrial biosphere models with data from the long-term multifactor Prairie Heating and CO₂ Enrichment experiment. *Global Change Biology* 23, 3623–3645.
- Norby, R.J., Gu, L., Haworth, I.C., Jensen, A.M., Turner, B.L., **Walker, A.P.**, Warren, J.M., Weston, D.J., Xu, C., Winter, K., 2017. Informing models through empirical relationships between foliar phosphorus, nitrogen and photosynthesis across diverse woody species in tropical forests of Panama. *New Phytologist* 215, 1425–1437.
- Ryan, E.M., Ogle, K., Peltier, D., **Walker, A.P.**, De Kauwe, M.G., Medlyn, B.E., Williams, D.G., Parton, W., Asao, S., Guenet, B., Harper, A.B., Lu, X., Luus, K.A., Zaehle, S., Shu, S., Werner, C., Xia, J., Pendall, E., 2017. Gross primary production responses to warming, elevated CO₂, and irrigation: quantifying the drivers of ecosystem physiology in a semiarid grassland. *Global Change Biology* 23, 3092–3106.
- Norby, R.J., Kauwe, M.G.D., **Walker, A.P.**, Werner, C., Zaehle, S., Zak, D.R., 2017. Comment on “Mycorrhizal association as a primary control of the CO₂ fertilization effect.” *Science* 355, 358–358
- Xu, Y., Wang, D., Iversen, C.M., **Walker, A. P.**, Warren, J., 2017. Building a Virtual Ecosystem Dynamic Model for Root Research. *Environmental Modelling & Software* 89, 97–105.

2016

- Le Quéré, C., Andrew, R.M., Canadell, J.G., Sitch, S., Korsbakken, J.I., Peters, G.P., Manning, A.C., Boden, T.A., Tans, P.P., Houghton, R.A., Keeling, R.F., Alin, S., Andrews, O.D., Anthoni, P., Barbero, L., Bopp, L., Chevallier, F., Chini, L.P., Ciais, P., Currie, K., Delire, C., Doney, S.C., Friedlingstein, P., Gkritzalis, T., Harris, I., Hauck, J., Haverd, V., Hoppema, M., Klein Goldewijk, K., Jain, A.K., Kato, E., Körtzinger, A., Landschützer, P., Lefèvre, N., Lenton, A., Lienert, S., Lombardozzi, D., Melton, J.R., Metzl, N., Millero, F., Monteiro, P.M.S., Munro, D.R., Nabel, J.E.M.S., Nakaoka, S., O’Brien, K., Olsen, A., Omar, A.M., Ono, T., Pierrot, D., Poulter, B., Rödenbeck, C., Salisbury, J., Schuster, U., Schwinger, J., Séférian, R., Skjelvan, I., Stocker, B.D., Sutton, A.J., Takahashi, T., Tian, H., Tilbrook, B., van der Laan-Luijckx, I.T., van der Werf, G.R., Viovy, N., **Walker, A.P.**, Wiltshire, A.J., Zaehle, S., 2016. Global Carbon Budget 2016. *Earth System Science Data* 8, 605–649
- Norby, R.J., De Kauwe, M.G., Domingues, T.F., Duursma, R.A., Ellsworth, D.S., Goll, D.S., Lapola, D.M., Luus, K.A., MacKenzie, A.R., Medlyn, B.E., Pavlick, R., Rammig, A., Smith, B., Thomas, R., Thonicke, K., **Walker, A.P.**, Yang, X., Zaehle, S., 2016. Model–data synthesis for the next generation of forest free-air CO₂ enrichment (FACE) experiments. *New Phytologist* 209, 17–28.

2015

- Medlyn, B.E., Zaehle, S., De Kauwe, M.G., **Walker, A.P.**, Dietze, M.C., Hanson, P.J., Hickler, T., Jain, A.K., Luo, Y., Parton, W., Prentice, I.C., Thornton, P.E., Wang, S., Wang, Y.-P., Weng, E., Iversen, C.M., McCarthy, H.R., Warren, J.M., Oren, R., Norby, R.J., 2015. Using ecosystem experiments to improve vegetation models. *Nature Climate Change* 5, 528–534.

- Iversen, C.M., Sloan, V.L., Sullivan, P.F., Euskirchen, E.S., McGuire, A.D., Norby, R.J., **Walker, A.P.**, Warren, J.M., Wullschleger, S.D., 2015. The unseen iceberg: plant roots in arctic tundra. *New Phytologist* 205, 34–58.
- Warren, J.M., Hanson, P.J., Iversen, C.M., Kumar, J., **Walker, A.P.**, Wullschleger, S.D., 2015. Root structural and functional dynamics in terrestrial biosphere models – evaluation and recommendations. *New Phytologist* 205, 59–78.
- Walker, A.P.**, Zaehle, S., Medlyn, B.E., De Kauwe, M.G., Asao, S., Hickler, T., Parton, W., Ricciuto, D.M., Wang, Y.-P., Wårlind, D., Norby, R.J., 2015. Predicting long-term carbon sequestration in response to CO₂ enrichment: How and why do current ecosystem models differ? *Global Biogeochemical Cycles* 2014GB004995.
- Weston, D.J., Timm, C.M., **Walker, A.P.**, Gu, L., Muchero, W., Schmutz, J., Shaw, A.J., Tuskan, G.A., Warren, J.M., Wullschleger, S.D., 2015. Sphagnum physiology in the context of changing climate: Emergent influences of genomics, modeling and host-microbiome interactions on understanding ecosystem function. *Plant Cell Environment* 38, 1737–1751.

2014

- Walker, A.P.**, Beckerman, A.P., Gu, L., Kattge, J., Cernusak, L.A., Domingues, T.F., Scales, J.C., Wohlfahrt, G., Wullschleger, S.D., Woodward, F.I., 2014. The relationship of leaf photosynthetic traits – V_{cmax} and J_{max} – to leaf nitrogen, leaf phosphorus, and specific leaf area: a meta-analysis and modeling study. *Ecology & Evolution* 4, 3218–3235.
- Walker, A.P.**, Hanson, P.J., De Kauwe, M.G., Medlyn, B.E., Zaehle, S., Asao, S., Dietze, M., Hickler, T., Huntingford, C., Iversen, C.M., Jain, A., Lomas, M., Luo, Y., Mccarthy, H., Parton, W.J., Prentice, I.C., Thornton, P.E., Wang, S., Wang, Y.-P., Wårlind, D., Weng, E., Warren, J.M., Woodward, F.I., Oren, R., Norby, R.J., 2014. Comprehensive ecosystem model-data synthesis using multiple data sets at two temperate forest free-air CO₂ enrichment experiments: Model performance at ambient CO₂ concentration. *JGR Biogeosciences* 119, 937–964.
- De Kauwe, M.G., Medlyn, B.E., Zaehle, S., **Walker, A.P.**, Dietze, M.C., Wang, Y.-P., Luo, Y., Jain, A.K., El-Masri, B., Hickler, T., Wårlind, D., Weng, E., Parton, W.J., Thornton, P.E., Wang, S., Prentice, I.C., Asao, S., Smith, B., McCarthy, H.R., Iversen, C.M., Hanson, P.J., Warren, J.M., Oren, R., Norby, R.J., 2014. Where does the carbon go? A model–data intercomparison of vegetation carbon allocation and turnover processes at two temperate forest free-air CO₂ enrichment sites. *New Phytologist* 203, 883–899.
- Zaehle, S., Medlyn, B.E., De Kauwe, M.G., **Walker, A.P.**, Dietze, M.C., Hickler, T., Luo, Y., Wang, Y.-P., El-Masri, B., Thornton, P., Jain, A., Wang, S., Wårlind, D., Weng, E., Parton, W., Iversen, C.M., Gallet-Budynek, A., Mccarthy, H., Finzi, A., Hanson, P.J., Prentice, I.C., Oren, R., Norby, R.J., 2014. Evaluation of 11 terrestrial carbon–nitrogen cycle models against observations from two temperate Free-Air CO₂ Enrichment studies. *New Phytologist* 202, 803–822.

2013

- De Kauwe, M.G., Medlyn, B.E., Zaehle, S., **Walker, A.P.**, Dietze, M.C., Hickler, T., Jain, A.K., Luo, Y., Parton, W.J., Prentice, I.C., Smith, B., Thornton, P.E., Wang, S., Wang, Y.-P., Wårlind, D., Weng, E., Crous, K.Y., Ellsworth, D.S., Hanson, P.J., Seok Kim, H., Warren, J.M., Oren, R., Norby, R.J., 2013. Forest water use and water use efficiency at elevated CO₂: a model-data intercomparison at two contrasting temperate forest FACE sites. *Global Change Biology* 19, 1759–1779.
- Huntingford, C., Zelazowski, P., Galbraith, D., Mercado, L.M., Sitch, S., Fisher, R., Lomas, M., **Walker, A.P.**, Jones, C.D., Booth, B.B.B., Malhi, Y., Hemming, D., Kay, G., Good, P., Lewis, S.L., Phillips, O.L., Atkin, O.K., Lloyd, J., Gloor, E., Zaragoza-Castells, J., Meir, P., Betts, R., Harris, P.P., Nobre, C., Marengo, J., Cox, P.M., 2013. Simulated resilience of tropical rainforests to CO₂-induced climate change. *Nature Geoscience* 6, 268–273.

2007-2008

- Walker, A.P.**, Mutuo, P.K., van Noordwijk, M., Albrecht, A., Cadisch, G., 2007. Modelling of planted legume fallows in Western Kenya using WaNuLCAS. (I) Model calibration and validation. *Agroforestry Systems* 70, 197–209.

Walker, A.P., van Noordwijk, M., Cadisch, G., 2008. Modelling of planted legume fallows in Western Kenya. (II) Productivity and sustainability of simulated management strategies. *Agroforestry Systems* 74, 143-154.

Datasets (chronological):

- Walker, A.P.**, De Kauwe, M.G., Fenstermaker, L.F., Hungate, B., Medlyn, B., Megonigal, P.J., Oren, R., Pendall, E., Talhelm, A.F., Zaehle, S., Zak, D.R., Boden, T., Brown, A.L., Burton, A.J., Butnor, J.R., Day, F.P., Drake, B.G., Dijkstra, P., Evans, R.D., Finzi, A.C., Iversen, C.M., Jackson, R.B., LeCain, D., McCarthy, H.R., Powell, T.L., Nowak, R.S., Riggs, J.S., Smith, S.D., Stover, D.B., Tharp, L.M., Warren, J.M., Wullschleger, S.D., Norby, R.J., 2018a. FACE-MDS Phase 2: Data from Six US-Located Elevated CO₂ Experiments. Environmental System Science Data Infrastructure for a Virtual Ecosystem; Free Air CO₂ Enrichment Model Data Synthesis (FACE-MDS). <https://doi.org/10.15485/1480325>
- Walker, A.P.**, De Kauwe, M.G., Medlyn, B., Zaehle, S., Asao, S., Guenet, B., Harper, A., Hickler, T., Jain, A.K., Luo, Y., Lu, X., Luus, K., Shu, S., Wang, Y.-P., Werner, C., Xia, J., Norby, R.J., 2018b. FACE-MDS Phase 2: Model Output. Environmental System Science Data Infrastructure for a Virtual Ecosystem; Free Air CO₂ Enrichment Model Data Synthesis (FACE-MDS). <https://doi.org/10.15485/1480327>
- Walker, A.P.**, Yang, B., Boden, T., De Kauwe, M.G., Fenstermaker, L.F., Medlyn, B., Megonigal, P.J., Oren, R., Pendall, E., Zak, D.R., Zaehle, S., Burton, A.J., Drake, B.G., Evans, R.D., Hungate, B., Johnson, D.P., Kim, D., LeCain, D., Lewin, K.F., Lu, M., Mueller, K.F., Nowak, R.S., Riggs, J.S., Smith, S.D., Tharp, L.M., Zelikova, T.J., Norby, R.J., 2018c. FACE-MDS Phase 2: Meteorological Data and Protocols. Environmental System Science Data Infrastructure for a Virtual Ecosystem; Free Air CO₂ Enrichment Model Data Synthesis (FACE-MDS). <https://doi.org/10.15485/1480328>
- Walker, A.P.**, Carter, K.R., Hanson, P.J., Nettles, W.R., Phillips, J.R., Sebestyen, S.D., Weston, D.J., 2017. SPRUCE S1 Bog Sphagnum CO₂ Flux Measurements and Partitioning into Re and GPP. <http://mnspruce.ornl.gov/node/648>
- Gu, L., Norby, R., Haworth, I., Jensen, A., Turner, B., **Walker, A.P.**, Warren, J., Weston, D., Winter, K., 2016. Photosynthetic parameters and nutrient content of trees at the Panama crane sites. <http://dx.doi.org/10.15486/NGT/1255260>
- Norby, R.J., Oren, R., Boden, T.A., De Kauwe, M.G., Kim, D., Medlyn, B.E., Riggs, J.S., Tharp, M.L., **Walker, A.P.**, Yang, B., Zaehle, S., 2015. Phase 1 Free Air CO₂ Enrichment Model-Data Synthesis (FACE-MDS): Meteorological Data.
- Walker, A.P.**, De Kauwe, M.G., Medlyn, B.E., Zaehle, S., Asao, S., Dietze, M., El-Masri, B., Hanson, P.J., Hickler, T., Jain, A., Luo, Y., Parton, W.J., Prentice, I.C., Ricciuto, D.M., Thornton, P.E., Wang, S., Wang, Y.-P., Warlind, D., Weng, E., Oren, R., Norby, R.J., 2015. Phase 1 Free Air CO₂ Enrichment Model-Data Synthesis (FACE-MDS): Model Output Data.
- Walker, A.P.**, I. Aranda, A.P. Beckerman, H. Bown, L.A. Cernusak, Q.L. Dang, T.F. Domingues, L. Gu, S. Guo, Q. Han, J. Kattge, M. Kubiske, D. Manter, E. Merilo, G. Midgley, A. Porte, J.C. Scales, D. Tissue, T. Turnbull, C. Warren, G. Wohlfahrt, F.I. Woodward, and S.D. Wullschleger. 2014. A Global Data Set of Leaf Photosynthetic Rates, Leaf N and P, and Specific Leaf Area. <http://dx.doi.org/10.3334/ORNLDAAAC/1224>