

## Publications

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### In press

De R, Bao S, Koirala S, Brenning A, Reichstein M, Tagesson T, Liddell M, Ibrom A, **Wolf S**, Šigut L, Hörtnagl L, Woodgate W, Cleverly JR, Korhikoski M, Merbold L, Black AT, Roland M, Klosterhalfen A, Blanken PD, Knox S, Sabbatini S, Gielen B, Zona D, Montagnani L, Fensholt R, Wohlfahrt G, Desai AR, Paul-Limoges E, Galvagno M, Hammerle A, Jocher G, Reverter BR, Holl D, Chen J, Vitale L, Kolari P, Arain MA, Carvalhais N (2025, *in press*) Addressing Challenges in Simulating Inter-annual Variability of Gross Primary Production. *Journal of Advances in Modeling Earth Systems* 17(5): e2024MS004697 (<https://doi.org/10.1029/2024MS004697>)

### In review/revision

Baldocchi DD, Verfaillie J, Ma S, **Wolf S**, Rey Sanchez C, Wang T, Szutu D (*in revision*) New Steps Towards Solving the Energy Balance Closure Mystery. *Agricultural and Forest Meteorology*

Beria H, Shekhar A, Trotsiuk V, Klesse S, Seybold H, Floriancic MG, **Wolf S**, Li X, Xiao J, Gessler A, Buchmann N, Kirchner JW (*in revision*) Unraveling effects of droughts on forest productivity along an elevation gradient in Switzerland. *Geophysical Research Letters*

De R, Brenning A, Reichstein M, Bao S, Šigut L, Reverter BR, Korhikoski M, Paul-Limoges E, Woodgate W, Blanken PD, Black AT, Gielen B, Tagesson T, Wohlfahrt G, Montagnani L, **Wolf S**, Chen J, Hörtnagl L, Liddell M, Desai AR, Koirala S, Carvalhais N (2025, *in review*) Inter-annual Variability of Hydrological Parameters Improves Simulation of Annual Gross Primary Production. *Journal of Advances in Modeling Earth Systems (JAMES)*

### Journal Articles

Wankmüller FJP, Delval L, Lehmann P, Baur MJ, Cecere A, **Wolf S**, Or D, Javaux M, Carminati A (2024) Global influence of soil texture on ecosystem water limitation. *Nature* 635(8039): 631–638 (<https://www.nature.com/articles/s41586-024-08089-2>)

**Wolf S**, Paul-Limoges E, Sayler D, Kirchner JW (2024) Dynamics of evapotranspiration from concurrent above- and below-canopy flux measurements in a montane Sierra Nevada forest. *Agricultural and Forest Meteorology* 346: 109864 (<https://www.sciencedirect.com/science/article/pii/S0168192323005543>)

Miller LM, **Wolf S**, Fisher JB, Zaitchik B, Xiao, J., Keenan TF (2023) Increased photosynthesis during spring drought in energy-limited ecosystems. *Nature Communications* 14: 7828 (<https://www.nature.com/articles/s41467-023-43430-9>)

**Wolf S** & Paul-Limoges E (2023) Drought and heat reduce forest carbon uptake. *Nature Communications* 14: 6217 (<https://www.nature.com/articles/s41467-023-41854-x>)

Zhang W, Jung M, Migliavacca M, Poyatos R, Miralles D, El-Madany TS, Galvagno M, Carrara A, Ibrom A, Mammarella I, Papale D, Cleverly J, Liddell M, Wohlfahrt G, Markwitz C, Mauder M, Paul-Limoges E, Schmidt M, **Wolf S**, Brümmer C, Arain MA, Fares S, Kato T, Ardö J, Oechel W, Hanson C, Korhikoski M, Biraud S, Steinbrecher R, Billesbach D, Montagnani L, Woodgate W, Shao C, Carvalhais N, Reichstein M, Nelson JA (2023) The effect of relative humidity on eddy covariance latent heat flux measurements and its implication for partitioning into transpiration and evaporation. *Agricultural and Forest Meteorology* 330: 109305 (<https://www.sciencedirect.com/science/article/pii/S0168192322004919>)

Migliavacca M, Musavi T, Mahecha MD, Nelson JA, Knauer J, Baldocchi DD, Perez-Priego O, Christiansen R, Peters J, Anderson K, Bahn M, Black AT, Blanken PD, Bonal D, Buchmann N, Caldararu S, Carrara A, Carvalhais N, Cescatti A, Chen J, Cleverly J, Cremonese E, Desai AR, El-Madany TS, Farella MM, Fernández-Martínez M, Filippa G, Forkel M, Galvagno M, Gomasasca U, Gough CM, Göckede M, Ibrom A, Ikawa H, Janssens IA, Jung M, Kattge J, Keenan TF, Knohl A, Kobayashi H, Kraemer G, Law BE, Lidell MJ, Ma X, Mammarella I, Martini D, MacFarlane C, Matteucci G, Montagnani L, Pabon-Moreno DE, Panigada C, Papale D, Pendall E, Penuelas J, Phillips RP, Reich PB, Rossini M, Rotenberg E, Scott RL, Stahl C, Weber U, Wohlfahrt G, **Wolf S**, Wright IJ, Yakir D, Zaehle S, Reichstein M (2021) The three major axes of terrestrial ecosystem

- function. *Nature* 598(7881): 468-472 (<https://www.nature.com/articles/s41586-021-03939-9>)
- Johnston ASA, Meade A, Ardö J, Arriga N, Bonal D, Black A, Blanken PD, Brümmer C, Cescatti A, Dušek J, Graf A, Gioli B, Goded I, Gough CM, Ikawa H, Jassal R, Kobayashi H, Magliulo V, Manca G, Montagnani L, Moyano FE, Olesen JE, Sachs T, Shao C, Tagesson T, Wohlfahrt G, **Wolf S**, Woodgate W, Varlagin A, Venditti C (2021) Temperature thresholds of ecosystem respiration at a global scale. *Nature Ecology & Evolution* 5(4): 487-494 (<https://www.nature.com/articles/s41559-021-01398-z>)
- Ma S, Eichelmann E, **Wolf S**, Rey-Sanchez C, Baldocchi DD (2020) Transpiration and evaporation in a Californian oak-grass savanna: Field measurements and partitioning model results. *Agricultural and Forest Meteorology* 295: 108204
- Cooper AE, Kirchner JW, **Wolf S**, Lombardozzi DL, Sullivan BW, Tyler SW, Harpold AA (2020) Snowmelt causes different limitations on transpiration in a Sierra Nevada conifer forest. *Agricultural and Forest Meteorology* 291: 108089
- Nelson AJ, Perez-Priego O, Zhou S, Poyatos R, Zhang Y, Blanken PD, Gimeno TE, Wohlfahrt G, Desai AR, Gioli B, Limousin JM, Bonal D, Paul-Limoges E, Scott RS, Varlagin A, Fuchs K, Montagnani L, **Wolf S**, Delpierre N, Berveiller D, Gharun M, Marchesini LB, Gianelle D, Sigut L, Mammarella I, Siebicke L, Black TA, Knohl A, Hörtnagl L, Magliulo V, Carvalhais N, Migliavacca M, Reichstein M, Jung M (2020) Ecosystem transpiration and evaporation: Insights from three water flux partitioning methods across FLUXNET sites. *Global Change Biology* 26(12): 6916-6930
- Pastorello G, Trotta C, Canfora E, Chu H, Christianson D, ... (>200 co-authors), **Wolf S**, ..., and Papale D (2020) The FLUXNET2015 dataset and the ONEFlux processing pipeline for eddy covariance data. *Scientific Data* 7: 225
- Xiao M, Yu Z, Kong D, Gu X, Mammarella I, Montagnani L, Arain MA, Merbold L, Magliulo V, Lohila A, Buchmann N, **Wolf S**, Gharun M, Hörtnagl L, Beringer J, Gioli B (2020) Stomatal response to decreased relative humidity constrains the acceleration of terrestrial evapotranspiration. *Environmental Research Letters* 15(9): 094066
- Paul-Limoges E, **Wolf S**, Schneider FD, Longo M, Moorcroft P, Gharun M, Damm A (2020) Partitioning evapotranspiration with concurrent eddy covariance measurements in a mixed forest. *Agricultural and Forest Meteorology* 280: 107786
- Haynes KD, Baker IT, Denning AS, **Wolf S**, Wohlfahrt G, Kiely G, Minaya RC, Haynes JM (2019) Representing grasslands using dynamic prognostic phenology based on biological growth stages: Part 2. Carbon cycling. *Journal of Advances in Modeling Earth Systems*, 11(12): 4440-4465
- Stoy PC, El-Madany T, Fisher JB, Gentile P, Gerken T, Good SP, Klosterhalfen A, Liu S, Miralles DG, Perez-Priego O, Rigden AJ, Skaggs TH, Wohlfahrt G, Anderson RG, Coenders-Gerrits AMJ, Jung M, Maes WH, Mammarella I, Mauder M, Migliavacca M, Nelson JA, Poyatos R, Reichstein M, Scott RL, and **Wolf S** (2019) Reviews and syntheses: Turning the challenges of partitioning ecosystem evaporation and transpiration into opportunities. *Biogeosciences* 16(19): 3747-3775
- Besnard S, Carvalhais N, Arain MA, Black A, Brede B, Buchmann N, Chen J, Clevers JGPW, Dutrieux LP, Gans F, Herold M, Jung M, Kosugi Y, Knohl A, Law BE, Paul-Limoges E, Lohila A, Merbold L, Roupsard O, Valentini R, **Wolf S**, Zhang X, Reichstein M (2019) Memory effects of climate and vegetation affecting net ecosystem CO<sub>2</sub> fluxes in global forests. *PLOS ONE* 14(2): e0211510
- Kunert N, El-Madany TS, Aparecido LMT, **Wolf S**, Potvin C (2019) Understanding the controls over forest carbon use efficiency on small spatial scales: Effects of forest disturbance and tree diversity. *Agricultural and Forest Meteorology* 269-270: 136-144
- Peaucelle M, Bacour C, Ciais P, Vuichard N, Kuppel S, Penuelas J, Beletti-Marchesini L, Blanken PD, Buchmann N, Chen J, Delpierre N, Desai AR, Dufrene E, Gianelle D, Gimeno-Colera C, Gruening C, Helfter C, Hörtnagl L, Ibrom A, Joffre R, Kato T, Kolb T, Law B, Lindroth A, Mammarella I, Merbold L, Minerbi S, Montagnani L, Sigut L, Sutton M, Varlagin A, Vesala T, Wohlfahrt G, **Wolf S**, Yakir D, Viovy N (2019) Covariations between plant functional traits emerge from constraining parameterization of a terrestrial biosphere model. *Global Ecology and Biogeography* 28(9): 1351-1365
- Fu Z, Gerken T, Bromley G, Araújo A, Bonal D, Burban B, Ficklin D, Fuentes JD, Goulden M, Hirano T, Kosugi Y, Liddell M, Nicolini G, Niu S, Roupsard O, Stefani P, Mi C, Tofte Z, Xiao J, Valentini R, **Wolf S**, Stoy PC (2018) The surface-atmosphere exchange of

- carbon dioxide in tropical rainforests: Sensitivity to environmental drivers and flux measurement methodology. *Agricultural and Forest Meteorology* 263: 292-307
- Wu X, Xiao X, Zhang Y, He W, **Wolf S**, Chen J, He M, Gough CM, Qin Q, Zhou Y, Doughty R, Scott R, Blanken PD (2018) Spatiotemporal consistency of four gross primary production products and solar-induced fluorescence in response to climate extremes across CONUS in 2012. *Journal of Geophysical Research – Biogeosciences* 123(10): 3140-3161
- Zhang Y, Xiao X, **Wolf S**, Wu J, Wu X, Gioli B, Wohlfahrt G, Cescatti A, van der Tol C, Zhou S, Gough CM, Gentile P, Zhang Y, Steinbrecher R, Ardö J (2018) Spatio-temporal Convergence of Maximum Daily Light-Use Efficiency Based on Radiation Absorption by Canopy Chlorophyll. *Geophysical Research Letters* 45: 3508-3519
- Zhang Y, Xiao X, Zhang Y, **Wolf S**, Zhou S, Joiner J, Guanter L, Verma M, Sun Y, Yang X, Paul-Limoges E, Gough CM, Wohlfahrt G, Gioli B, van der Tol C, Yann N, Lund M, de Grandcourt A (2018) On the relationship between sub-daily instantaneous and daily total gross primary production: Implications for interpreting satellite-based SIF retrievals. *Remote Sensing of Environment* 205: 276-289
- Paul-Limoges E, **Wolf S**, Eugster W, Hörtnagl L, Buchmann N (2017) Below-canopy contributions to ecosystem CO<sub>2</sub> fluxes in a temperate mixed forest in Switzerland. *Agricultural and Forest Meteorology* 247: 582-596
- Eugster W, Emmel C, **Wolf S**, Buchmann N, McFadden JP, Whiteman CD (2017) Effects of vernal equinox solar eclipse on temperature and wind direction in Switzerland, *Atmospheric Chemistry and Physics* 17(24): 14887-14904
- Wolf S**, Yin D, Roderick ML (2017) Using radiative signatures to diagnose the cause of warming during the 2013–2014 Californian Drought. *Journal of Hydrology* 553: 408-418
- Yao Y, Liang S, Li X, Liu S, Chen J, Jia K, Zhang X, Fisher JB, Wang X, Zhang L, Xu J, Shao C, Posse G, Li Y, Magliulo V, Varlagin A, Moors EJ, Boike J, Macfarlane C, Kato T, Buchmann N, Billesbach DP, Beringer J, **Wolf S**, Papuga SA, Wohlfahrt G, Montagnani L, Ardö J, Paul-Limoges E, Emmel C, Hörtnagl LJ, Sachs T, Gruening C, Gioli B, López-Ballesteros A, Steinbrecher R, Gielen B (2017) Estimation of high-resolution terrestrial evapotranspiration from Landsat data using a simple Taylor skill fusion method. *Journal of Hydrology* 553: 508-526
- Chu H, Baldocchi DD, John R, **Wolf S**, Reichstein M (2017) Fluxes All of the Time? A Primer on the Temporal Representativeness of FLUXNET. *Journal of Geophysical Research – Biogeosciences* 122(2): 289-307
- van Gorsel E, **Wolf S**, Cleverly J, Isaac P, Haverd V, Ewenz C, Arndt S, Beringer S, Resco de Dios V, Evans BJ, Hutley L, Keenan T, Kljun N, Macfarlane C, Meyer W, McHugh I, Pendall E, Prober SM, Silberstein R (2016) Carbon uptake and water use in woodlands and forests in southern Australia during an extreme heat wave event in the 'Angry Summer' of 2012/2013. *Biogeosciences* 13(21): 5947-5964  
⇒ Highlighted in [TERN Newsletter 1-2017](#)
- Wolf S**, Keenan TF, Fisher JB, Baldocchi DD, Desai AR, Richardson AD, Scott RL, Law BE, Litvak ME, Brunsell NA, Peters W, van der Laan-Luijkx IT (2016) Warm spring reduced carbon cycle impact of the 2012 US summer drought. *Proceedings of the National Academy of Sciences* 113(21): 5880-5885 ⇒ Highlighted in [Nature News & Views \(Pan & Schimel 2016, 534: 483-484\)](#), [PNAS \(Sippel et al. 2016, 113\(21\): 5768-5770\)](#), [ETH News](#), [Lawrence Berkeley National Laboratory](#), [Wageningen UR News](#), and [EnvironmentalResearchWeb – Highly Cited Paper \(Web of Science\)](#)
- Zscheischler J, Fatichi S, **Wolf S**, Blanken P, Bohrer G, Clark K, Desai A, Hollinger D, Keenan T, Novick KA, Seneviratne SI (2016) Short-term favorable weather conditions are an important control of interannual variability in carbon and water fluxes. *Journal of Geophysical Research – Biogeosciences* 121(8): 2186-2198
- Verma M, Fisher JB, Mallick K, Ryu Y, Kobayashi H, Guillaume A, Moore G, Ramakrishnan L, Hendrix V, **Wolf S**, Sikka M, Kiely G, Wohlfahrt G, Gielen B, Roupsard O, Toscano P, Arain MA, Cescatti A (2016) Global Surface Net-Radiation at 5 km from MODIS Terra. *Remote Sensing* 8(9): 739
- Ma S, Baldocchi DD, **Wolf S**, Verfaillie J (2016) Slow ecosystem responses conditionally regulate annual carbon balance over 15 years in Californian oak-grass savanna. *Agricultural and Forest Meteorology* 228-229: 252-264

- Tramontana G, Jung M, Camps-Valls G, Ichii K, Raduly B, Reichstein M, Schwalm CR, Arain MA, Cescatti A, Kiely G, Merbold L, Serrano-Ortiz P, Sickert S, **Wolf S**, Papale D (2016) Predicting carbon and energy fluxes across global FLUXNET sites with regression algorithms. *Biogeosciences* 13(14): 4291-4313
- Yao Y, Liang S, Li X, Liu S, Chen J, Zhang X, Jia K, Xie X, Munier S, Liu M, Yu J, Lindroth A, Varlagin A, Raschi A, Noormets A, Pio C, Wohlfahrt G, Sun G, Domec JC, Montagnani L, Lund M, Eddy M, Blanken PD, Grünwald T, **Wolf S**, Magliulo V (2016) Assessment and simulation of global terrestrial latent heat flux by synthesis of CMIP5 climate models and surface eddy covariance observations. *Agricultural and Forest Meteorology* 223: 151-167
- Parazoo NC, Barnes E, Worden J, Harper AB, Bowman KW, Frankenberg C, **Wolf S**, Litvak ME, Keenan TF (2015) Influence of ENSO and the NAO on terrestrial carbon uptake in the Texas-northern Mexico region. *Global Biogeochemical Cycles*, 29(8): 1247-1265
- Wolf S**, Eugster W, Ammann C, Häni M, Zielis M, Hiller R, Stieger J, Imer D, Merbold L, Buchmann N (2013) Contrasting response of grassland versus forest carbon and water fluxes to spring drought in Switzerland. *Environmental Research Letters* 8(3): 035007  
⇒ Highlighted in [EnvironmentalResearchWeb](#)
- Sprenger M, Oelmann Y, Weihermüller L, **Wolf S**, Wilcke W, Potvin C (2013) Tree species and diversity effects on soil water seepage in a tropical plantation. *Forest Ecology and Management* 309(0): 76-86
- Wolf S**, Eugster W, Majorek S, Buchmann N (2011) Afforestation of tropical pasture only marginally affects ecosystem-scale evapotranspiration. *Ecosystems* 14(8): 1264-1275
- Wolf S**, Eugster W, Potvin C, Turner BL, Buchmann N (2011) Carbon sequestration potential of tropical pasture compared with afforestation in Panama. *Global Change Biology* 17(9): 2763-2780  
⇒ Highlighted in [STRI News](#) and [ETH Life](#)
- Schneebeli M, **Wolf S**, Kunert N, Eugster W, Mätzler C (2011) Relating the X-Band opacity of a tropical tree canopy to sapflow, rain interception and dew formation. *Remote Sensing of Environment* 115(8): 2116-2125
- Wolf S**, Eugster W, Potvin C, Buchmann N (2011) Strong seasonal variations in net ecosystem CO<sub>2</sub> exchange of a tropical pasture and afforestation in Panama. *Agricultural and Forest Meteorology* 151(8): 1139-1151
- Potvin C, Manzilla L, Buchmann N, Monteza J, Moore T, Murphy M, Oelmann Y, Scherer-Lorenzen M, Turner B, Wilcke W, Zeugin F, **Wolf S** (2011) An ecosystem approach to biodiversity effects: Carbon pools in a tropical tree plantation. *Forest Ecology and Management* 261(10): 1614-1624
- Wolf S**, Walz U, Kleber A (2009) Effects of land-cover change on soil erosion in the Saxon Switzerland National Park Region. *Die ERDE* 140(2): 155-174
- Schneebeli M, Mätzler C, **Wolf S**, Eugster W (2008) X-band opacity of a tropical tree canopy and its relation to intercepted rain, eddy fluxes and other meteorological variables. *Microwave Radiometry and Remote Sensing of the Environment, MICRORAD 2008*. doi: 10.1109/MICRAD.2008.4579514

### Book chapters, Monographs and Reports

- Wolf S** (2010) Carbon dioxide and water vapour fluxes of tropical pasture and afforestation: seasonal variations of net ecosystem exchange and carbon sequestration potentials. *DISS. ETH NO. 19415*, ETH Zurich, 163 p
- Wolf S**, Eugster W, Buchmann N (2009) Effects of Land Use on Carbon Cycling of Tropical Ecosystems in Panama. In: Tielkes E (ed.): *Tropentag 2009, Biophysical and Socio-economic Frame Conditions for the Sustainable Management of Natural Resources*, Hamburg
- Walz U, **Wolf S**, Neubert M (2008) Impact of Landscape Change on Landscape Functions in the Saxon Switzerland. In: Csaplovics E, Wagenknecht S, Seiler U (eds.): *Spatial Information Systems for Transnational Environmental Management of Protected Areas and Regions in the Central European Space*. Rhombus, Berlin. pp 105-117
- Wolf S**, Walz U (2007) Auswirkungen einer veränderten Landnutzungsstruktur auf die Bodenerosion. In: Strobl J, Blaschke TH, Griesebner G (Hrsg.): *Angewandte Geoinformatik 2007. Beiträge zum 19. AGIT-Symposium Salzburg*. Wichmann, Heidelberg, pp 867-872

- Wolf S** (2006) Bodenerosion als Funktion veränderter Landnutzungsstruktur – Modellierung der Entwicklung am Beispiel der Nationalparkregion Sächsische Schweiz. *Diploma / Masters thesis*, Dresden University of Technology, Institute of Geography, 177 p
- Wolf S** (2004) Landschaftszerschneidung – Grenzüberschreitende Untersuchung der Entwicklung und ihrer Auswirkungen für das Gebiet der Sächsisch-Böhmischen Schweiz. *Studienarbeit (Research Assignment)*, Dresden University of Technology, Institute of Geography, 40 p
- Roberts A, Dragicevic S, Northrup J, **Wolf S**, Li Y, Coburn C (2003) Mountain Pine Beetle Detection and Monitoring - Remote Sensing Evaluations. *Forestry Innovation Investment Operational Report*, 45 p
- Roberts A, Northrup J, **Wolf S**, Li Y (2003) Mountain Pine Beetle Detection and Monitoring - Interpretation and Evaluation of Airborne Imagery. *West Fraser Sawmills Report*, 22 p

### Miscellaneous

- Wolf S** (2013) Insight: forests use water more efficiently during spring drought. *EnvironmentalResearchWeb*. [environmentalresearchweb.org/cws/article/news/54686](http://environmentalresearchweb.org/cws/article/news/54686)
- Wolf S**, Koteen L, Tomelleri E (2012) Networking among Young Scientists. *iLEAPS Newsletter: Future land-atmosphere observation platforms* 12: 27-29
- Wolf S**, Koteen L, Zeeman MJ (2011) Growing the FLUXNET Community: The Young Scientists Network. *FluxLetter* 4(1): 4-5
- Wolf S**, Eugster W, Buchmann N (2009) What happens with the carbon? *Newsletter of Smithsonian Tropical Research Institute*, 13.11.2009: 4
- Wolf S**, Eugster W, Buchmann N (2009) CO<sub>2</sub> fluxes of tropical ecosystems with different land-use in Panama. *FluxLetter* 2(3): 14-16
- Vargas R, **Wolf S**, Zeeman M (2009) FLUXNET Young Scientists Network. *FluxLetter* 2(3): 9
- Wolf S**, Walz U (2005) Grenzüberschreitende Untersuchung der Landschaftszerschneidung in der Sächsisch-Böhmischen Schweiz. *Mitteilungen des Landesvereins Sächsischer Heimatschutz e.V.* 14(3): 33-39
- Wolf S** (2003) Tien Shan Mountains, mapping expedition. *American Alpine Journal* 77: 346-347
- Wolf S** (2003) Kartierungsexpedition ins Himmelsgebirge. *Der neue Sächsische Bergsteiger* 14(1): 50-52
- Wolf S** (2002) Kartieren in Eis, Geröll und hohen Bergen. *Dresdner Universitätsjournal* 13(16): 3
- Wolf S** (2002) Topographische Kartierung am höchsten Vulkan der Erde. *Der neue Sächsische Bergsteiger* (13)2: 48-49
- Wolf S** (2001) Expedition Dachstein-Südwandhöhle 2001. *Der neue Sächsische Bergsteiger* 12(4): 47-48

### Data Sets

Seyednasrollah B, Young AM, Hufkens K, Milliman T, Friedl MA, Froking S, Richardson AD, Abraha M, Allen DW, Apple M, Arain MA, Baker J, Baker JM, Bernacchi CJ, Bhattacharjee J, Blanken P, Bosch DD, Boughton R, Boughton EH, Brown RF, Browning DM, Brunsell N, Burns SP, Cavagna M, Chu H, Clark PE, Conrad BJ, Cremonese E, Debinski D, Desai AR, Diaz-Delgado R, Duchesne L, Dunn AL, Eissenstat DM, El-Madany T, Ellum DSS, Ernest SM, Esposito A, Fenstermaker L, Flanagan LB, Forsythe B, Gallagher L, Gianelle D, Griffis T, Groffman P, Gu L, Guillemot J, Halpin M, Hanson PJ, Hemming D, Hove AA, Humphreys ER, Jaimes-Hernandez A, Jaradat AA, Johnson J, Keel E, Kelly VR, Kirchner JW, Kirchner PB, Knapp M, Krassovski M, Langvall O, Lanthier G, Maire GI, Magliulo E, Martin TA, McNeil B, Meyer GA, Migliavacca M, Mohanty BP, Moore CE, Mudd R, Munger JW, Murrell ZE, Nestic Z, Neufeld HS, O'Halloran TL, Oechel W, Oishi AC, Oswald WW, Perkins TD, Reba ML, Rundquist B, Runkle BR, Russell ES, Sadler EJ, Saha A, Saliendra NZ, Schmalbeck L, Schwartz MD, Scott RL, Smith EM, Sonnentag O, Stoy P, Strachan S, Suvocarev K, Thom JE, Thomas RQ, Van den Berg AK, Vargas R, Vogel CS, Walker JJ, Webb N, Wetzell P, Weyers S, Whipple AV, Whitham TG, Wohlfahrt G, Wood JD, **Wolf S**, Yang J, Yang X, Yenni G, Zhang Y, Zhang Q, Zona D (2019) PhenoCam Dataset v2.0: Vegetation Phenology

from Digital Camera Imagery, 2000-2018. ORNL DAAC, Oak Ridge, Tennessee, USA.  
<https://doi.org/10.3334/ORNLDAAC/1674>

**Wolf S**, Eugster W, Buchmann N (2016) FLUXNET2015 Dataset: Carbon, water and energy flux data for the site Sardinilla Pasture (PA-SPs), 2007-2009, DOI: 10.18140/FLX/1440179, <https://fluxnet.fluxdata.org/doi/FLUXNET2015/PA-SPs>

**Wolf S**, Eugster W, Buchmann N (2016) FLUXNET2015 Dataset: Carbon, water and energy flux data for the site Sardinilla Plantation (PA-SPn), 2007-2009, DOI: 10.18140/FLX/1440180, <https://fluxnet.fluxdata.org/doi/FLUXNET2015/PA-SPn>

## Presentations

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### Talks

Wolf S (26.06.2024) The Eddy Covariance Method – measuring Biosphere-Atmosphere Exchange of Ecosystems. Physics of Soils and Terrestrial Ecosystems Seminar, ETH Zurich (Switzerland)

Wolf S, Miller DL, Paul-Limoges E (15.04.2024) Impacts of drought on ecosystem carbon uptake. EGU General Assembly, 14.-19.04.2024, Vienna (Austria)

Wolf S (26.06.2023) The Eddy Covariance Method – measuring Biosphere-Atmosphere Exchange of Ecosystems. Physics of Soils and Terrestrial Ecosystems Seminar, ETH Zurich (Switzerland)

Wolf S, Paul-Limoges E, Saylor D, Kirchner JW (28.04.2023) Evapotranspiration dynamics and partitioning from concurrent above and below canopy flux measurements in a Montane Sierra Nevada Forest. EGU General Assembly, 24.-28.04.2023, Vienna (Austria)

Wolf S & Kirchner JW (10.04.2019) Dynamics of Evapotranspiration Partitioning with Concurrent Subcanopy Flux Measurements in a Montane Sierra Nevada Forest. EGU General Assembly, 08.-12.04.2019, Vienna (Austria)

Wolf S (18.06.2018) Impacts of Drought on Biosphere-Atmosphere Interactions. Climate Conversations, Lawrence Berkeley National Laboratory, Berkeley (USA) – *invited*

Wolf S & Kirchner JW (04.06.2018) Temporal Dynamics of Below and Above Canopy Evapotranspiration at Sagehen. Sagehen Hydroecology Meeting, Sagehen Creek Field Station (USA)

Wolf S & Kirchner JW (14.05.2018) Temporal Dynamics of Below and Above Canopy Evapotranspiration in a Montane Sierra Nevada Forest. 33rd Conference on Agricultural and Forest Meteorology (American Meteorological Society), 14.-17.05.2018, Boise ID (USA)

Wolf S *et al.* (14.05.2018) Subcanopy Flux Measurements in Forest Ecosystems. Fourth Conference on Biogeosciences (American Meteorological Society), 14.-17.05.2018, Boise ID (USA)

Wolf S (25.09.2017) Biosphere-Atmosphere Exchange of Trace Gases. OPTIMISE Workshop on 'Ecosystem specific metadata definition', Luxembourg Institute of Science and Technology (LIST), Esch-sur-Alzette (Luxembourg) – *invited*

Wolf S (14.09.2017) Subcanopy Flux Measurements in Forest Ecosystems. ITES rDAY, ETH Zurich (Switzerland)

Wolf S *et al.* (08.06.2017) Water Flux Partitioning. Breakout Discussion at FLUXNET Workshop, Berkeley (USA) – *invited*

Wolf S (31.05.2017) Interactions of Carbon and Water Cycle during Warm Spring and Summer Drought. Carbon Club Seminar, NASA Jet Propulsion Laboratory (JPL), Pasadena (USA) – *invited*

Roderick ML, Wolf S, Yin D (15.05.2017) Drought and other heresies. Soil and Terrestrial Environmental Physics Seminar, ETH Zurich (Switzerland)

Roderick ML, Wolf S, Yin D (25.04.2017) Separating warming-induced drought from drought-induced warming. EGU General Assembly, 24.-28.04.2017, Vienna (Austria) – *invited*

Wolf S *et al.* (12.12.2016) Using Radiative Signatures to Diagnose the Cause of Warming Associated with the Californian Drought. AGU Fall Meeting 2016, San Francisco (USA)

Wolf S (12.12.2016) Radiative Signatures and Warming during the recent Californian Drought. Physics of Environmental Systems Seminar, ETH Zurich (Switzerland)

- Wolf S (09.11.2016) Carbon-Water Interactions during Warm Spring and Summer Drought. ZHydro Seminar, ETH Zurich (Switzerland)
- Wolf S (05.09.2016) Impacts of Seasonal Climate Anomalies on the Biosphere-Atmosphere Exchange of Carbon, Water and Energy. Physics of Environmental Systems Seminar, ETH Zurich (Switzerland) – *invited*
- Wolf S *et al.* (23.06.2016) Warm Spring Reduced Carbon Cycle Impact of the 2012 US Summer Drought. 32th Conference on Agricultural and Forest Meteorology / 3rd Conference on Atmospheric Biogeosciences (AMS meeting), 20.-24.06.2016, Salt Lake City UT (USA)
- Wolf S *et al.* (22.06.2016) Using Radiative Signatures to Diagnose the Cause of Warming Associated with the Californian Drought. 32th Conference on Agricultural and Forest Meteorology / 3rd Conference on Atmospheric Biogeosciences (AMS meeting), 20.-24.06.2016, Salt Lake City UT (USA)
- Wolf S *et al.* (16.12.2015) Subcanopy Flux Measurements in Forest Ecosystems. AGU Fall Meeting 2015, San Francisco (USA)
- Wolf S (02.09.2015) Biosphere-atmosphere Interactions and the Impact of Drought on Ecosystem Carbon and Water Fluxes. Interdisciplinary Topics in Earth and Environment, Wageningen University (The Netherlands) – *invited*
- Wolf S & Eugster W (25.08.2015) Biosphere-Atmosphere Exchange of Ecosystems – The Eddy-Covariance Method. NFZ-Summer School 2015 FORESCALE, Climate change impacts on forest ecosystems. Fafleralp (Switzerland)
- Wolf S (21.04.2015) Einfluss von Frühlingstrockenheit 2011 auf den Kohlenstoff- und Wasserhaushalt von Grasland und Wald. Informationsabend ETH-Forschungsstation Chamau (Switzerland)
- Wolf S *et al.* (15.04.2015) Warm Spring Reduced Impact of Summer Drought on Carbon Cycling. EGU General Assembly 2015, Vienna (Austria)
- Wolf S (12.03.2015) Biosphere-atmosphere Interactions and the Impact of Drought on Ecosystem Carbon and Water Fluxes. Botanical Lecture Series, University of Basel (Switzerland) – *invited*
- Wolf S (16.02.2015) Warm Spring Reduced Impact of Summer Drought on Carbon Cycling. Grassland Seminar, ETH Zurich (Switzerland)
- Wolf S *et al.* (15.12.2014) Warm Spring Reduced Impact of Summer Drought on Carbon Cycling. AGU Fall Meeting 2014, San Francisco (USA)
- Wolf S *et al.* (13.05.2014) Large-scale reductions in gross primary productivity and evapotranspiration caused by the 2012 US drought. 31th Conference on Agricultural and Forest Meteorology/2nd Conference on Atmospheric Biogeosciences (AMS meeting), 12.-15.05.2014, Portland OR (USA)
- Wolf S (05.05.2014) Synthesis of the 2012 U.S. drought: Impact on ecosystem fluxes and implications for the future. AmeriFlux Annual PI Meeting, 04.-05.05.2014, Potomac MD (USA) – *invited*
- Wolf S (12.03.2014) Impact of the 2012 US drought on ecosystem carbon and water fluxes. Biometeorology lab meeting, University of California, Berkeley (USA)
- Wolf S *et al.* (09.12.2013) Impact of the 2012 US drought on ecosystem carbon and water fluxes. AGU Fall Meeting 2013, San Francisco (USA) – *invited*
- Wolf S, Tomelleri E (19.09.2013) GHG-Europe Young Scientists. GHG-Europe Project Meeting, Antwerp (Belgium)
- Wolf S (12.09.2013) Biosphere-atmosphere interactions and the impact of drought on ecosystem fluxes. University of Montreal, Department of Geography, Montreal (Canada)
- Wolf S (22.08.2013) FLUXNET Young Scientist Network (YSN). Joint AsiaFlux / HESSS / KSAFM Meeting, Seoul National University, Seoul (South Korea), remote talk – *invited*
- Wolf S (18.04.2013) Carbon Sequestration of Tropical Pasture and Afforestation in Panama. Lecture in ESPM Seminar, University of California, Berkeley (USA)
- Wolf S *et al.* (26.03.2013) Contrasting response of grassland versus forest carbon and water fluxes to spring drought in Switzerland. Science Talkshop, Institute of Agricultural Sciences, ETH Zurich (Switzerland)
- Wolf S, Baldocchi D (06.12.2012) Flux Partitioning of Water Vapour and Carbon Dioxide in a Californian Oak Savanna. AGU Fall Meeting 2012, San Francisco (USA)

- Wolf S *et al.* (06.08.2012) Response of ecosystem carbon and water dynamics to spring drought in Switzerland. Land-Climate Interactions Group Seminar, Institute for Atmospheric and Climate Science, ETH Zurich (Switzerland)
- Wolf S *et al.* (25.06.2012) Response of ecosystem carbon and water dynamics to spring drought in Switzerland. Biometeorology and Soil Physics Group lab meeting, University of British Columbia, Vancouver (Canada)
- Wolf S *et al.* (20.06.2012) Response of ecosystem carbon and water dynamics to spring drought in Switzerland. Biometeorology lab meeting, University of California, Berkeley (USA)
- Wolf S *et al.* (31.05.2012) Response of ecosystem carbon and water dynamics to spring drought in Switzerland. 30th Conference on Agricultural and Forest Meteorology/First Conference on Atmospheric Biogeosciences (AMS meeting), Boston (USA)
- Wolf S *et al.* (09.12.2011) Seasonal variability of CO<sub>2</sub> and H<sub>2</sub>O fluxes in tropical pasture and afforestation. AGU Fall Meeting 2011, San Francisco (USA) – *invited*
- Wolf S *et al.* (06.12.2011) Impact of spring drought on ecosystem carbon and water dynamics in Switzerland. AGU Fall Meeting 2011, San Francisco (USA)
- Wolf S (08.06.2011) Turbulente Ökosystemflüsse von CO<sub>2</sub> und H<sub>2</sub>O in tropischer Weide und Aufforstung in Panama. Geographisches Kolloquium, Dresden University of Technology (Germany) – *invited*
- Wolf S, Eugster W, Buchmann N (14.12.2010) Ecosystem carbon-water interactions of tropical pasture and afforestation. AGU Fall Meeting 2010, San Francisco (USA)
- Wolf S (26.11.2010) Carbon dioxide and water vapour fluxes of tropical pasture and afforestation: seasonal variations of net ecosystem exchange and carbon sequestration potentials. PhD defence, ETH Zurich (Switzerland)
- Wolf S *et al.* (20.11.2010) Ecosystem carbon budgets of tropical pasture versus afforestation. Swiss Geoscience Meeting, Fribourg (Switzerland)
- Wolf S (15.11.2010) Carbon and water fluxes of pasture and afforestation in Panama. Seminar Current Topics in Grassland Sciences, ETH Zurich (Switzerland)
- Wolf S (01.02.2010) Carbon cycling of two tropical ecosystems. Bambi Seminar, Smithsonian Tropical Research Institute (STRI). Barro Colorado Island (Panama)
- Wolf S *et al.* (07.12.2009) Land use and carbon cycling of tropical ecosystems in Panama. Colloquium in Plant Sciences, ETH Zurich (Switzerland)
- Wolf S, Eugster W, Buchmann N (08.10.2009) Land use and CO<sub>2</sub> fluxes of tropical ecosystems in Panama. Institute of Soil Sciences (IFB), University of Hamburg (Germany)
- Wolf S *et al.* (07.10.2009) Effects of Land Use on Carbon Cycling of Tropical Ecosystems in Panama. Tropentag 2009, University of Hamburg (Germany)
- Wolf S, Plath M (08.09.2009) How reforestation could improve small farmers' livelihood in the tropics. North-South Centre Progress Forum 2009, ETH Zurich (Switzerland)
- Wolf S (12.06.2009) Carbon cycling of two tropical ecosystems in Panama. Tropical Field Biology course of Butler University, Smithsonian Tropical Research Institute (STRI). Gamboa (Panama)
- Wolf S (05.05.2009) Net ecosystem exchange of two tropical ecosystems in Panama. Seminar Current Topics in Grassland Sciences, ETH Zurich (Switzerland)
- Wolf S (07.04.2009): Net ecosystem exchange of two tropical ecosystems in Panama. Center for Tropical Forest Research (CTFS) science meeting, Smithsonian Tropical Research Institute (STRI). Panama City (Panama)
- Wolf S *et al.* (25.03.2009) Sustainable agroforestry for carbon sequestration to improve small farmers' livelihood in the tropics - Plant productivity and carbon sequestration potentials. Project Meeting Panama, Georg-August-University Göttingen (Germany).
- Wolf S *et al.* (28.10.2008) The global low temperature treeline phenomenon, Bolivia - the world's highest treeline. PSC Colloquium Challenges in Plant Sciences, ETH Zurich (Switzerland)
- Wolf S (17.06.2008) Eddy covariance measurements - lessons learned about breathing of the terrestrial biosphere. Center for Tropical Forest Research (CTFS) science meeting, Smithsonian Tropical Research Institute (STRI). Panama City (Panama) – *invited*
- Wolf S (06.05.2008) Effects of land use on carbon sequestration potentials in Panama. Seminar Current Topics in Grassland Sciences, ETH Zurich (Switzerland)
- Wolf S, Buchmann N, Eugster W, Schneebeli M (14.01.2008) Sustainable agroforestry for carbon sequestration to improve small farmers' livelihood in the tropics - Plant

- productivity and carbon sequestration potentials. Project Meeting Panama, Johannes Gutenberg University Mainz (Germany)
- Wolf S (11.12.2007) Land-atmosphere interactions of ecosystems – Partitioning of ecosystem fluxes using  $\delta^{13}\text{C}$ . Seminar Stable Isotope Ecology of Terrestrial Ecosystems, ETH Zurich (Switzerland)
- Wolf S (06.07.2007) Auswirkungen einer veränderten Landnutzungsstruktur auf die Bodenerosion. AGIT-Symposium, Salzburg (Austria)
- Wolf S (22.01.2007) Plant productivity and carbon sequestration potentials in Panama. Seminar Current Topics in Grassland Sciences, ETH Zurich (Switzerland)
- Wolf S (23.08.2006) Effects of land use change on soil erosion. Biogeochemical Model-Data Integration Group, Max Planck Institute for Biogeochemistry. Jena (Germany)
- Wolf S (14.12.2005) Bodenerosion als Funktion veränderter Landnutzungsstruktur – Modellierung der Entwicklung am Beispiel der Nationalparkregion Sächsische Schweiz. Geographisches Kolloquium, Dresden University of Technology (Germany)
- Wolf S (13.12.2004) Landschaftszerschneidung – Grenzüberschreitende Untersuchung für das Gebiet der Sächsisch-Böhmischen Schweiz. Workshop Langzeituntersuchung von Flächennutzungsentwicklungen, Leibniz Institute of Ecological and Regional Development. Dresden (Germany)

## Posters

- Wolf S *et al.* (2017) Subcanopy Flux Measurements in Forest Ecosystems. FLUXNET Workshop, 07.-09.06.2017, Berkeley (USA)
- Wolf S *et al.* (2017) Carbon-Water Interactions during Warm Spring and Summer Drought. FLUXNET Workshop, 07.-09.06.2017, Berkeley (USA)
- Wolf S *et al.* (2017) Subcanopy Flux Measurements in Forest Ecosystems. EGU General Assembly, 24.-28.04.2017, Vienna (Austria)
- Wolf S *et al.* (2017) Carbon-Water Interactions during Warm Spring and Summer Drought. EGU General Assembly, 24.-28.04.2017, Vienna (Austria)
- Tramontana G *et al.* (2017) Predicting carbon dioxide and energy fluxes with empirical approaches in FLUXNET. EGU General Assembly, 24.-28.04.2017, Vienna (Austria)
- Zhang Y *et al.* (2016) Global convergence of maximum light use efficiency using fraction of PAR absorbed by chlorophyll. AGU Fall Meeting, 12.-16.12.2016, San Francisco (USA)
- Wolf S *et al.* (2015) Global Patterns of Biosphere-Atmosphere Energy Fluxes in Terrestrial Ecosystems, 16<sup>th</sup> Swiss Global Change Day, 01.04.2015, Bern (Switzerland)
- Wolf S *et al.* (2014) Global Patterns of Biosphere-Atmosphere Energy Fluxes in Terrestrial Ecosystems, 7<sup>th</sup> International Scientific Conference on the Global Water and Energy Cycle, 14.-17.07.2014, The Hague (The Netherlands) – **GEWEX Presentation Award**
- Wolf S *et al.* (2013) Response of ecosystem carbon and water dynamics to spring drought in Switzerland. Greenhouse Gas Management in European Land Use Systems, 16.-19.09.2013, Antwerp (Belgium)
- Wolf S *et al.* (2013) Response of ecosystem carbon and water dynamics to spring drought in Switzerland. Climate Extremes and Biogeochemical Cycles 2013, 02.-05.04.2013, Seefeld (Austria)
- Wolf S *et al.* (2013) Response of ecosystem carbon and water dynamics to spring drought in Switzerland. 12<sup>th</sup> Berkeley Atmospheric Sciences Symposium, 08.02.2013, Berkeley (USA)
- Wolf S *et al.* (2013) Response of ecosystem carbon and water dynamics to spring drought in Switzerland. 4<sup>th</sup> NACP All-Investigators Meeting, 04.-07.02.2013, Albuquerque (USA)
- Sprenger M, Wolf S, Buchmann, Eugster W, Weihermüller L, Wilcke W, Oelmann Y (2012) Tree species effects on seepage fluxes in soil in a tropical afforestation. 4<sup>th</sup> EUROSIL Conference, 02.-06.06.2012, Bari (Italy)
- Sprenger M, Wolf S, Buchmann, Eugster W, Weihermüller L, Wilcke W, Oelmann Y (2012) Der Effekt von Baumarten auf die Versickerungsraten auf einer tropischen Aufforstung. Tag der Hydrologie, 22.-23.03.2012, Freiburg (Germany)
- Wolf S *et al.* (2011) Carbon dioxide and water vapour fluxes of tropical pasture and afforestation. 3rd iLEAPS Science Conference, 18.-23.09.2011, Garmisch-Partenkirchen (Germany)

- Wolf S *et al.* (2011) Swiss FluxNet. 3rd iLEAPS Science Conference, 18.-23.09.2011, Garmisch-Partenkirchen (Germany)
- Wolf S *et al.* (2009) Land-use change and its effects on carbon cycling in the tropics. 8<sup>th</sup> NCCR Climate Summer School, 30.08.-04.09.2009, Grindelwald (Switzerland)
- Wolf S *et al.* (2009) Contrasting ecosystem-scale fluxes from pasture and native tree plantation in Panama. European Geosciences Union (EGU) General Assembly, 19.-24.04.2009, Vienna (Austria)
- Wolf S *et al.* (2009) Net ecosystem exchange of two tropical ecosystems in Panama. European Geosciences Union (EGU) General Assembly, 19.-24.04.2009, Vienna (Austria)
- Wolf S *et al.* (2008) Net ecosystem exchange of tropical ecosystems in Panama. 6<sup>th</sup> CarboEurope-IP Project Meeting, 29.09.-03.10.2008, Jena (Germany)
- Wolf S *et al.* (2008) Effects of land use on carbon sequestration potentials in Panama. 7<sup>th</sup> NCCR Climate Summer School, 31.08.-05.09.2008, Monte Verità, Ascona (Switzerland)
- Wolf S *et al.* (2008) Land use effects on carbon sequestration potentials in tropical Panama. European Geosciences Union (EGU) General Assembly, 13.-18.04.2008, Vienna (Austria)
- Wolf S *et al.* (2008) Land use effects on carbon sequestration potentials in tropical Panama. 9<sup>th</sup> Swiss Global Change Day, 01.04.2008, Bern (Switzerland)
- Schneebeli M, Wolf S, Eugster W, Mätzler C (2008) X-Band Opacity Measurements of Tropical Tree Canopies in Panama and its Link to Intercepted Rain, Eddy Fluxes and Other Meteorological Variables. 9<sup>th</sup> Swiss Global Change Day, 01.04.2008, Bern (Switzerland)
- Schneebeli M, Wolf S, Eugster W, Mätzler C (2008) X-Band Opacity Measurements of Tropical Tree Canopies in Panama and its Link to Intercepted Rain, Eddy Fluxes and Other Meteorological Variables. Microwave Radiometry and Remote Sensing of the Environment, 11.-14.03.2008, Florence (Italy)
- Wolf S *et al.* (2007) Land use and carbon sequestration potentials in Panama. Latsis Symposium - Research Frontiers in Environment and Sustainability, 17.-19.09.2007, ETH Zurich (Switzerland)
- Wolf S (2007) Land use and carbon sequestration potentials in Panama. 6<sup>th</sup> NCCR Climate Summer School, 26.-31.08.2007, Grindelwald (Switzerland)
- Wolf S *et al.* (2006) Effects of landscape change on soil erosion in the National Park Region of Saxon Switzerland. Nature Protection GIS - International Symposium on Geoinformatics in European Nature Protection Regions. 13.-14.11.2006, Dresden (Germany)
- Wolf S (2006) Landschaftszerschneidung der Sächsisch-Böhmischen Schweiz - grenzüberschreitende Untersuchung der Entwicklung seit 1900. Nature Protection GIS - International Symposium on Geoinformatics in European Nature Protection Regions. 13.-14.11.2006, Dresden (Germany)
- Wolf S (2006) Berücksichtigung von Fließbarrieren bei der Erosionsmodellierung. 32. Jahrestagung des Arbeitskreises Geomorphologie der Deutschen Geographischen Gesellschaft. 04.-07.10.2006, Dresden (Germany)