# Curriculum Vitæ

#### **Dr Benjamin David Stocker**

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## Key achievements

- Developed a novel machine learning-based method to quantify soil moisture effects on vegetation productivity from the combination of flux measurements and satellite data (Stocker et al., 2018, New Phytologist)
- Provided the first consistent quantification of multiple climate feedbacks from the terrestrial biosphere using a coupled Earth System Model (Stocker et al., 2013, Nature Climate Change)
- Developed the first dynamic global model to simulate the distribution of peatlands and their effect on the carbon cycle under a changing climate (Stocker et al., 2014, Geosci. Model Dev.). This model was applied for the first transient simulation of global peatland after the Last Glacial Maximum (Stocker et al., 2017, PNAS).

## Current position and research foci

#### March 2017 - February 2020

Marie Skłodowska-Curie Fellow at the Ecological and Forestry Applications Research Centre (CREAF), Barcelona, Spain

- Investigating nutrient and water limitation effects on ecosystem functioning, with a focus on carbon assimilation, allocation, and growth.
- Model development for the representation of terrestrial vegetation and biogeochemistry and model-data integration (https://stineb.github.io/)
- Management of code development and data across research groups in collaboration with C. Prentice (Imperial College London, U.K.), Trevor Keenan (Lawrence Berkeley National Lab, U.S.A.), and Sandy Harrison (Reading University, U.K.)

#### Education

Nov. 2009- Ph.D. Climate Sciences at Climate- and Environmental Physics, University Dec. 2013 of Bern,

Climate Forcings and Feedbacks from the Terrestrial Biosphere – From Greenhouse-Gas Emissions to Anthropogenic Land Use Change

Supervised by Prof. F. Joos Final grade: 6.0 (maximum: 6.0) Date obtained: 13. Dec. 2013

Sep. 2007- M.Sc. Climate Sciences at Climate- and Environmental Physics, University Oct. 2009 of Bern,

Transient Simulations of Land Use Change in the Holocene – Separating the Human Impact from Natural Drivers of the Carbon Cycle

Supervised by Prof. F. Joos Final grade: 5.73 (maximum: 6.0) Date obtained: 16. Nov. 2009 **Jun. 2006** Undergraduate in Geography (120 ECTS) with a Minor (60 ECTS) in **Physics**, and a complementary (15 ECTS) in **Ecology**, University of Bern

## Previous employment

- Sep. 2017- Postdoctoral Research Associate with Prof. S. Seneviratne at the Institute for
- Feb. 2018 Atmospheric and Climate Science, ETH Zürich, Switzerland
  - Developing a machine learning-based method for the identification of soil moisture limitation on ecosystem productivity from Eddy covariance flux data
- Mar. 2014- Postdoctoral Research Fellow with Prof. I. C. Prentice at the Department of
- Aug. 2016 Life Sciences, Imperial College London, U.K.
  - Developing methods for simulating carbon-nitrogen cycle interactions
- Jan.-Feb. Postdoctoral Research Assistant at Climate- and Environmental Physics,
  - **2014** University of Bern.
    - Simulating land use effects in the coupled Earth system.
- Mar.-Jun. Visiting Scholar at Macquarie University, Sydney, Australia, Invitation and
  - **2011** supervision by Prof. Colin Prentice
    - Adopted a nitrogen module within the LPX global vegetation model
- Jan.-Jun. Internship at FirstClimate, Zürich, private company developing climate change2007 mitigation projects
- Jan.-Jun. Research assistant, Centre for Development and Environment, development of
  - **2006** a GIS-based database for FAO statistics

### Awards and fellowships

- Eccellenza Professorial Fellowship, granted by the Swiss National Science Foundation, 60 months starting in September 2019, total 1.8 mio. CHF (approx. 1.6 mio. EUR)
- Marie Sklodowska-Curie Individual Fellowship, 24 months, granted by ERC, scheduled starting date: March 2017, project number H2020-MSCA-IF-2015-701329 FIBER
- Offered Incoming PEGASUS Fellowship, granted by the Flemish Science Foundation (FWO), 36 months, July 2016. Not accepted due to acceptance of the ERC Marie Skłodowska-Curie Individual Fellowship.
- Early Postdoc.Mobility scholarship, granted by the Swiss National Science Foundation, 18 months starting in March 2015, total 62,750 EUR (72,000 CHF).
- Faculty prize for best Master's thesis at the Physics Institute, University of Bern, obtained Feb. 2010
- Travel grant for early career scientists for participation at the XIX INQUA Congress in Nagoya (60,000 JPY approx. 1500 CHF)
- Travel grant for a Short Term Science Mission, funded by EU the ClimMani Cost Action ES1308 (ca. 1000 CHF)
- Erasmus scholarship from the European Union (ca. 1000 CHF)

## Teaching and supervision

- Lecturing Introduction to the Carbon Cycle (MRes in Ecosystem and Environmental Change, Imperial College London), based on own teaching material and exercise
- Co-supervision of graduate student Fabian Feissli, Physics, University of Bern
  - Close collaboration on the development of an innovative method to simulate land use transitions within the LPX Dynamic Global Vegetation model, led by Prof. F. Joos
- Co-supervision of undergraduate student Guan Jie Low, Biology, Imperial College

- Investigation of past atmospheric N<sub>2</sub>O records, led by Prof. I.C. Prentice
- **Teaching assistant** at the Physics Institute, University of Bern, Switzerland
  - Introduction to Carbon Cycle by Prof. F. Joos (spring 2012, autumn 2013)
  - Introduction to Climate- and Environmental Physics (autumn 2010, autumn 2012)
  - Physics Lab (spring 2013)
  - Climate Modelling and Introduction to Carbon Cycle, translation of lecture notes from German to English
- Author of a problem series for *Introduction to the Carbon Cycle*, University of Berne
  - Designed problems and lead exercises for programming in R with a focus on the global carbon cycle

#### Professional activities and panel memberships

- Contributing Author to IPCC AR5, WGI, Chapter 6 Carbon and other Biogeochemical Cycles, and IPCC AR5, WGIII
- Contributor to the Global Carbon Project, years 2013, 2014, 2015, 2016, and 2017 (http://www.globalcarbonproject.org/carbonbudget)
  - Co-authoring annual summary of the state-of-the-art of the global carbon balance and CO<sub>2</sub> emission estimates
  - Providing simulation results of global CO<sub>2</sub> emissions from land use change
- Review Editor for Forest Growth from trees to ecosystems, a specialty of Frontiers in Forests and Global Change

#### Session convener:

- EGU 2019, Vienna [upcoming]: Terrestrial ecosystem responses to global change: integrating experiments and models to understand carbon, nutrient, and water cycling, and Scaling terrestrial ecosystem carbon and water response from leaf to continent with observations and simulations
- INQUA 2015, Nagoya: Using palaeo-environmental data to quantify climate feedbacks
- PAGES OSM 2017, Zaragoza: Understanding past variations in atmospheric greenhouse gases to constrain future feedbacks in the Earth system
- EGU 2018, Vienna: Terrestrial ecosystem responses to global change: integrating carbon, nutrient, and water cycles from experiments and models
- [Upcoming] SIBECOL 2019 (First conference of the Iberian Ecological Society), Barcelona: Predicting the response of carbon, nutrient and water to global change: Where theory, data and models meet
- Ph.D. jury member: Dr. Marcos Fernández-Martínez, UAB Barcelona, Spain (22.1.2016)

#### • Workshop convener:

- Terrestrial nitrogen cycling in Earth system models revisited, 2.-5.2.2016
- Palaeoclimate experiments to evaluate the impact of LULC on climate and the carbon cycle: a joint codesign workshop of the PAGES LandCover6ka WG and the Palaeoclimate Modelling Intercomparion Project, scheduled 18.-20.9.2018
- External reviewer for ERC Consolidator Grant Call 2018
- Completed peer reviews for journals (total: 22): Nature (2), Nature Geoscience (3), Nature Climate Change (1), New Phytologist (2), Global Change Biology (1), Geoscientific Model Development (3), Biogeosciences (7), Journal of Climate (1), Earth System Dynamics (1), Environmental Research Letters (1), Geophysical Research Letters (1), Global Biogeochemical Cycles (1), Earth and Planetary Science Letters (1), Journal of Geophysical Research Biogeosciences (1) [see also publions.com/a/1186022/]

## Invited seminars and keynotes

- Oct. 2017 "Using data from ecosystem manipulation experiments to calibrate and validate (improve) models", ClimMani Cost Action Final Conference, Utrecht, invited kevnote
- **Jun. 2017** "Trade-offs and optimality principles to guide the development of a next-generation vegetation model?" IPSL LSCE, Paris, **invited seminar**

May 2016	Large CO <sub>2</sub> emissions from preindustrial land use change – Does the carbon budget add up? University of Cambridge, <b>invited seminar</b>
Jan. 2016	"Optimal plant carbon allocation implies a biological control on nitrogen availability", PLECO, University of Antwerp, <b>invited seminar</b>
Jun. 2015	"Preindustrial human impacts on the carbon cycle", University of Reading, invited seminar
Jan. 2015	"Preindustrial human impacts on the carbon cycle", University College London, invited seminar
Sep. 2014	"Spatio-temporal dynamics of global peatland extent and carbon stocks as simulated for the past twenty thousand years", MPI Hamburg, <b>invited seminar</b>

## Publications in peer-reviewed scientific journals

I am the author of **36 high quality publications** in journals included in the Web of Science, appearing as a first author in 7 publications. Seven of my publications are in top-ranking journals (Science, Nature, PNAS, Nature Clim. Change, Nature Geosci.). I have accumulated **2486 citations** and have an **h-index of 18** (Web of Science, 6.12.2018). I have 29 publications without my PhD promoters.

- **2018** Stocker, B. D., Zscheischler, J., Keenan, T. F., Prentice, I. C., Peñuelas, J. and Seneviratne, S. I. (2018), Quantifying soil moisture impacts on light use efficiency across biomes. *New Phytologist*, 218: 1430-1449. doi:10.1111/nph.15123
  - I developed the method, conducted the analysis and wrote the paper.
  - Link: https://nph.onlinelibrary.wiley.com/doi/abs/10.1111/nph.15123
  - Vicca, S., **Stocker, B.**, Reed, S., Wieder, W. R., Bahn, M., Fay, P., Janssens, I., Lambers, H., Peuelas, J., Piao, S., Rebel, K., Sardans, J., Sigurdsson, B., Sun- dert, K. V., Wang, Y.-P., Zaehle, S., and Ciais, P.: Using research networks to create the comprehensive datasets needed to assess nutrient availability as a key determinant of terrestrial carbon cycling, *Environmental Research Letters*, URL http://iopscience.iop.org/10.1088/1748-9326/aaeae7, 2018.
    - For this perspectives paper, I am acknowledged to have made equal contributions with the first author.
    - Link: http://iopscience.iop.org/article/10.1088/1748-9326/aaeae7/pdf
  - Terrer, C., Vicca, S., **Stocker, B. D.**, Hungate, B. A., Phillips, R. P., Reich, P. B., Finzi, A. C., and Prentice, I. C.: Ecosystem responses to elevated CO<sub>2</sub> governed by plant-soil interactions and the cost of nitrogen acquisition, *New Phytologist*, 217, 507–522, 2018.
    - I designed the evaluation framework and contributed intentsively to writing the mansucript. This was published as a *Tansley Review*
    - Link: http://bstocker.net/wp-content/uploads/2016/09/Terrer\_et\_al-2017-New\_Phytologist.pdf
  - Wang, Y., Ciais, P., Goll, D., Huang, Y., Luo, Y., Wang, Y.-P., Bloom, A. A., Broquet, G., Hartmann, J., Peng, S., Penuelas, J., Piao, S., Sardans, J., Stocker, B. D., Wang, R., Zaehle, S., and Zechmeister-Boltenstern, S.: GOLUM-CNP v1.0: a data-driven modeling of carbon, nitrogen and phosphorus cycles in major terrestrial biomes, *Geoscientific Model Development*, 11, 3903–3928, doi:10.5194/gmd-11-3903-2018, URL https://www.geosci-model-dev.net/11/3903/2018/, 2018.
    - I contributed to model formulation, the design of the study and manuscript writing.
    - Link: https://www.geosci-model-dev.net/11/3903/2018/gmd-11-3903-2018.pdf
  - 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., Lef evre, 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.-I., 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., van der Laan-Luijkx, I. T., van der Werf, G. R., van Heuven, S., Viovy, N., Vuichard, N., Walker, A. P., Watson, A. J., Wiltshire, A. J., Zaehle, S., and Zhu, D.: Global Carbon Budget 2017, Earth System Science Data, 10, 405–448, doi:10.5194/essd-10-405-2018, URL, 2018.
    - I prepared land use forcing data and contributed to writing.
    - Link: https://www.earth-syst-sci-data.net/10/405/2018/
- **Stocker, B. D.**, Yu, Z., Massa, C., and Joos, F.: Holocene peatland and ice-core data constraints on the timing and magnitude of CO<sub>2</sub> emissions from past land use, *Proceedings of the National Academy of Sciences*, 114, 1492–1497, doi:10.1073/pnas. 1613889114, 2017.
  - I led the study and conducted the analysis and writing.
  - Link: http://bstocker.net/wp-content/uploads/2017/01/stocker17pnas.pdf
  - Arneth, A., Sitch, S., Pongratz, J., Stocker, B. D., Ciais, P., Poulter, B., Bayer, A. D., Bondeau, A.,
     Calle, L., Chini, L. P., Gasser, T., Fader, M., Friedlingstein, P., Kato, E., Li, W., Lindeskog, M., Nabel,
     J. E. M. S., Pugh, T. A. M., Robertson, E., Viovy, N., Yue, C., and Zaehle, S.: Historical carbon

dioxide emissions caused by land- use changes are possibly larger than assumed, *Nature Geoscience*, 10, 79–84, URL http://dx.doi.org/10.1038/ngeo2882, 2017.

- I contributed model simulations and contributed to designing the study and writing.
- Link: http://bstocker.net/wp-content/uploads/2016/09/arneth17natgeo.pdf
- Terrer, C., Vicca, S., Hungate, B. A., Phillips, R. P., Reich, P. B., Franklin, O., Stocker, B. D., Fisher, J. B., and Prentice, I. C.: Response to Comment on "Mycorrhizal association as a primary control of the CO<sub>2</sub> fertilization effect", *Science*, 355, 358–358, doi:10.1126/science.aai8242, URL http://science.sciencemag.org/content/355/6323/358.3, 2017.
  - I contributed to writing.
  - Link: http://bstocker.net/wp-content/uploads/2016/09/terrer17sci\_response.pdf
- Davis, T. W., Prentice, I. C., Stocker, B. D., Thomas, R. T., Whitley, R. J., Wang, H., Evans, B. J., Gallego-Sala, A. V., Sykes, M. T., and Cramer, W.: Simple process-led algorithms for simulating habitats (SPLASH v.1.0): robust indices of radiation, evapotranspiration and plant-available moisture, Geoscientific Model Development, 10, 689–708, doi:10.5194/gmd-10-689-2017, URL http://www.geoscimodel-dev.net/10/689/2017/, 2017.
  - I collaborated closely on the development of this model code and wrote its version in Fortran.
  - Link: http://www.geosci-model-dev.net/10/689/2017/
- Peñuelas, J., Sardans, J., Filella, I., Estiarte, M., Llusiá, J., Ogaya, R., Carnicer, J., Bartrons, M., Rivas-Ubach, A., Grau, O., Peguero, G., Margalef, O., Pla-Rab es, S., Stefanescu, C., Asensio, D., Preece, C., Liu, L., Verger, A., Barbeta, A., Achotegui- Castells, A., Gargallo-Garriga, A., Sperlich, D., Farré Armengol, G., Fernández- Martinez, M., Liu, D., Zhang, C., Urbina, I., Camino-Serrano, M., Vives-Ingla, M., Stocker, D. B., Balzarolo, M., Guerrieri, R., Peaucelle, M., Marañon-Jiménez, S., Bórnez-Mejías, K., Mu, Z., Descals, A., Castellanos, A., and Terradas, J.: Impacts of Global Change on Mediterranean Forests and Their Services, Forests, 8, http://www.mdpi.com/1999-4907/8/12/463/pdf, 2017.
  - I contributed to writing.
  - Link: http://www.mdpi.com/1999-4907/8/12/463/pdf
- Li, W., Ciais, P., Peng, S., Yue, C., Wang, Y., Thurner, M., Saatchi, S. S., Arneth, A., Avitabile, V., Carvalhais, N., Harper, A. B., Kato, E., Koven, C., Liu, Y. Y., Nabel, J. E. M. S., Pan, Y., Pongratz, J., Poulter, B., Pugh, T. A. M., Santoro, M., Sitch, S., **Stocker, B. D.**, Viovy, N., Wiltshire, A., Yousefpour, R., and Zaehle, S.: Land- use and land-cover change carbon emissions between 1901 and 2012 constrained by biomass observations, *Biogeosciences*, 14, 5053–5067, 2017.
  - I contributed model simulations and helped writing the manuscript.
  - Link: https://www.biogeosciences.net/14/5053/2017/
- 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., Lef evre, 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.-I., 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-Luijkx, I. T., van der Werf, G. R., Viovy, N., Walker, A. P., Wiltshire, A. J., and Zaehle, S.: Global Carbon Budget 2016, Earth System Science Data, 8, 605–649, doi:10.5194/essd-8-605-2016, URL http://www.earth-syst-scidata.net/8/605/2016/, 2016.
  - I contributed model simulations and text on land use emissions and land-ocean carbon fluxes
  - Link: http://www.earth-syst-sci-data.net/8/605/2016/
  - Zhang, Y., Xiao, X., Guanter, L., Zhou, S., Ciais, P., Joiner, J., Sitch, S., Wu, X., Nabel, J., Dong, J., Kato, E., Jain, A. K., Wiltshire, A., and **Stocker, B. D.**: Precipitation and carbon-water coupling jointly control the interannual variability of global land gross primary production, *Scientific Reports*, 6, 39748 EP –, URL http://dx.doi.org/10.1038/srep39748, 2016.
    - I contributed model simulations and helped writing the manuscript.
    - Link: <a href="http://dx.doi.org/10.1038/srep39748">http://dx.doi.org/10.1038/srep39748</a>

- Zhao, F., Zeng, N., Asrar, G., Friedlingstein, P., Ito, A., Jain, A., Kalnay, E., Kato, E., Koven, C. D., Poulter, B., Rafique, R., Sitch, S., Shu, S., Stocker, B. D., Viovy, N., Wiltshire, A., and Zaehle, S.: Role of CO<sub>2</sub>, climate and land use in regulating the seasonal amplitude increase of carbon fluxes in terrestrial ecosystems: a multimodel analysis, *Biogeosciences*, 13, 5121-5137, doi:10.5194/bg-13-5121-2016, 2016.
  - I contributed model simulations.
  - Link: https://www.biogeosciences.net/13/5121/2016/
- Murray-Tortarolo, G., Friedlingstein, P., Sitch, S., Jaramillo, V. J., Murguía-Flores, F., Anav, A., Liu, Y., Arneth, A., Arvanitis, A., Harper, A., Jain, A., Kato, E., Koven, C., Poulter, B., Stocker, B. D., Wiltshire, A., Zaehle, S., and Zeng, N.: The carbon cycle in Mexico: past, present and future of C stocks and fluxes, *Biogeosciences*, 13, 223-238, doi:10.5194/bg-13-223-2016, 2016
  - I contributed model simulations and helped writing the manuscript.
  - Link: http://www.biogeosciences.net/13/223/2016/
- Calle, L., Canadell, J. G., Patra, P., Ciais, P., Ichii, K., Tian, H., Kondo, M., Piao, S., Arneth, A., Harper, A. B., Ito, A., Kato, E., Koven, C., Sitch, S., Stocker, B. D., Vivoy, N., Wiltshire, A., Zaehle, S., and Poulter, B.: Regional carbon fluxes from land use and land cover change in Asia, 1980–2009, Environmental Research Letters, 11, 074 011, URL http://stacks.iop.org/1748-9326/11/i=7/a=074011, 2016
  - I contributed model simulations and helped writing the manuscript.
  - Link: http://bstocker.net/wp-content/uploads/2016/09/calle16erl\_trendy.pdf
- Cervarich, M., Shu, S., Jain, A. K., Arneth, A., Canadell, J., Friedlingstein, P., Houghton, R. A., Kato, E., Koven, C., Patra, P., Poulter, B., Sitch, S., Stocker, B., Viovy, N., Wiltshire, A., and Zeng, N.: The terrestrial carbon budget of South and Southeast Asia, *Environmental Research Letters*, 11, 105 006, URL http://stacks.iop.org/1748-9326/11/i=10/a=105006, 2016.
  - I contributed model simulations and helped writing the manuscript.
  - Link: http://stacks.iop.org/1748-9326/11/i=10/a=105006
- Zhu, Z., Piao, S., Myneni, R. B., Huang, M., Zeng, Z., Canadell, J. G., Ciais, P., Sitch, S., Friedlingstein, P., Arneth, A., Cao, C., Cheng, L., Kato, E., Koven, C., Li, Y., Lian, X., Liu, Y., Liu, R., Mao, J., Pan, Y., Peng, S., Penuelas, J., Poulter, B., Pugh, T. A. M., Stocker, B. D., Viovy, N., Wang, X., Wang, Y., Xiao, Z., Yang, H., Zaehle, S., and Zeng, N.: Greening of the Earth and its drivers, *Nature Clim. Change*, 6, 791–795, 2016.
  - I contributed model simulations and helped writing the manuscript.
  - Link: <a href="http://bstocker.net/wp-content/uploads/2016/09/zhu16natcc\_greening.pdf">http://bstocker.net/wp-content/uploads/2016/09/zhu16natcc\_greening.pdf</a>
- Mendelsohn, R., Prentice, I. C., Schmitz, O., Stocker, B., Buchkowski, R., and Dawson, B.: The Ecosystem Impacts of Severe Warming, *American Economic Review*, 106, 612–14, doi:10.1257/aer.p20161104, 2016
  - I conducted the analysis of model simulations and contributed to writing.
  - Link: <a href="http://bstocker.net/wp-content/uploads/2016/09/mendelsohn16.pdf">http://bstocker.net/wp-content/uploads/2016/09/mendelsohn16.pdf</a>
- **Stocker, B. D.** and Joos, F.: Quantifying differences in land use emission estimates implied by definition discrepancies, *Earth Syst. Dynam.*, 6, 731-744, doi:10.5194/esd-6-731-2015, 2015.
  - I designed the study, conducted simulations and analysis and wrote the manuscript.
  - Link: http://www.earth-syst-dynam.net/6/731/2015/esd-6-731-2015.html
  - Le Quéré, C., Moriarty, R., Andrew, R. M., Canadell, J. G., Sitch, S., Korsbakken, J. I., Friedlingstein, P., Peters, G. P., Andres, R. J., Boden, T. A., Houghton, R. A., House, J. I., Keeling, R. F., Tans, P., Arneth, A., Bakker, D. C. E., Barbero, L., Bopp, L., Chang, J., Chevallier, F., Chini, L. P., Ciais, P., Fader, M., Feely, R. A., Gkritzalis, T., Harris, I., Hauck, J., Ilyina, T., Jain, A. K., Kato, E., Kitidis, V., Klein Goldewijk, K., Koven, C., Landschützer, P., Lauvset, S. K., Lefèvre, N., Lenton, A., Lima, I. D., Metzl, N., Millero, F., Munro, D. R., Murata, A., Nabel, J. E. M. S., Nakaoka, S., Nojiri, Y., O'Brien, K., Olsen, A., Ono, T., Pérez, F. F., Pfeil, B., Pierrot, D., Poulter, B., Rehder, G., Rödenbeck, C., Saito, S., Schuster, U., Schwinger, J., Séférian, R., Steinhoff, T., Stocker, B. D., Sutton, A. J., Takahashi, T., Tilbrook, B., van der Laan-Luijkx, I. T., van der Werf, G. R., van Heuven, S., Vandemark, D., Viovy, N., Wiltshire, A., Zaehle, S., and Zeng, N.: Global Carbon Budget 2015, Earth Syst. Sci. Data, 7, 349-396, doi:10.5194/essd-7-349-2015, 2015.
    - I contributed model simulations and helped writing the manuscript.
    - Link: http://www.earth-syst-sci-data.net/7/349/2015/essd-7-349-2015.html

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  - I conducted model simulations and helped writing the manuscript.
  - Link: http://www.atmos-chem-phys.net/15/13849/2015/
- Olin, S., Lindeskog, M., Pugh, T. A. M., Schurgers, G., Wårlind, D., Mishurov, M., Zaehle, S., Stocker, B. D., Smith, B., and Arneth, A.: Soil carbon management in large-scale Earth system modelling: implications for crop yields and nitrogen leaching, *Earth Syst. Dynam.*, 6, 745-768, doi:10.5194/esd-6-745-2015, 2015.
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