

## Full list of Publications

### A) Journal Articles

1. Betts, RA, Alfieri, L, Bradshaw, C, Caesar, J, Feyen, L, Friedlingstein, P, Gohar, L, Koutroulis, A, Lewis, K, Morfopoulos, C, Papadimitriou, L, Richardson, KJ, Tsanis, I, Wyser, K (2018), Changes in climate extremes, fresh water availability and vulnerability to food insecurity projected at 1.5 degrees C and 2 degrees C global warming with a higher-resolution global climate model, *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 376, 10.1098/rsta.2016.0452
2. Millar, RJ, Friedlingstein, P (2018) The utility of the historical record for assessing the transient climate response to cumulative emissions, *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 376, 10.1098/rsta.2016.0449
3. Millar, RJ, Fuglestedt, JS, Friedlingstein, P, Rogelj, J, Grubb, MJ, Matthews, HD, Skeie, RB, Forster, PM, Frame, DJ, Allen, MR (2018), Reply to 'Interpretations of the Paris climate target', *Nature Geoscience*, doi 10.1038/s41561-018-0087-7
4. Kondo, M., Ichii, K., Patra, P.K., Canadell, J.G., Poulter, B., Sitch, S., Calle, L., Liu, Y.Y., Van Dijk, A.I.J.M., Saeki, T., Saigusa, N., Friedlingstein, P., Arneth, A., Harper, A., Jain, A.K., Kato, E., Koven, C., Li, F., Pugh, T.A.M., Zaehle, S., Wiltshire, A., Chevallier, F., Maki, T., Nakamura, T., Niwa, Y. & Rödenbeck, C. (2018). Land use change and el niño-southern oscillation drive decadal carbon balance shifts in southeast asia. *Nature Communications*, 9(1) doi:10.1038/s41467-018-03374-x
5. Le Quéré, C., Andrew, R.M., Friedlingstein, P., Sitch, S., Pongratz, J., Manning, A.C., Ivar Korsbakken, J., 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., Metz, N., Millero, F., Monteiro, P.M.S., Munro, D.R., Nabel, J.E.M.S., Nakaoka, S., Nojiri, Y., Antonio Padin, X., Pregon, 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.V., Werf, G.R.V., Van Heuven, S., 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*, vol. 10, no. 1, pp. 405-448.
6. Li, W., Ciais, P., Wang, Y., Yin, Y., Peng, S., Zhu, Z., Bastos, A., Yue, C., Ballantyne, A.P., Broquet, G., Canadell, J.G., Cescatti, A., Chen, C., Cooper, L., Friedlingstein, P., Le Quéré, C., Myneni, R.B. & Piao, S. (2018), Recent Changes in Global Photosynthesis and Terrestrial Ecosystem Respiration Constrained From Multiple Observations, *Geophysical Research Letters*, vol. 45, no. 2, pp. 1058-1068.
7. Nakhavali, M., Friedlingstein, P., Lauerwald, R., Tang, J., Chadburn, S., Camino-Serrano, M., Guenet, B., Harper, A., Walmsley, D., Pechl, M. & Gielen, B. (2018), Representation of dissolved organic carbon in the JULES land surface model (vn4.4-JULES-DOCM), *Geoscientific Model Development*, vol. 11, no. 2, pp. 593-609.
8. Piao, S., Liu, Z., Wang, Y., Ciais, P., Yao, Y., Peng, S., Chevallier, F., Friedlingstein, P., Janssens, I.A., Peñuelas, J., Sitch, S. & Wang, T. (2018), On the causes of trends in the seasonal amplitude of atmospheric CO<sub>2</sub>, *Global Change Biology*, vol. 24, no. 2, pp. 608-616
9. Murray-Tortarolo, G., Jaramillo, V.J., Maass, M., Friedlingstein, P. & Sitch, S. (2017), The decreasing range between dry- and wet-season precipitation over land and its effect on vegetation primary productivity, *PLoS ONE*, vol. 12, no. 12.
10. Peters GP, LeQuéré C, Andrew RM, Canadell JG, Friedlingstein P, Ilyina T, Jackson RB, Joos F, Kosbakken JI, McKinley GA, Sitch S, Tans P (2017), Towards real-time verification of CO<sub>2</sub> emissions, *Nature Climate Change*, doi:10.1038/s41558-017-0013-9.
11. Millar, R., Fuglestedt, JS, Friedlingstein, P, Rogelj J, Grubb MJ, Matthews HD, Skeie RB, Forster PM, Frame DJ, Allen MR, Emission budgets and pathways consistent with limiting warming to 1.5 C (2017) *Nature Geosciences*, DOI: 10.1038/NGEO3031
12. Burke, E.J., Ekici, A., Huang, Y., Chadburn, S.E., Huntingford, C., Ciais, P., Friedlingstein, P., Peng, S., Krinner, G. Quantifying uncertainties of permafrost carbon-climate feedbacks (2017) *Biogeosciences*, 14 (12), pp. 3051-3066. DOI: 10.5194/bg-14-3051-2017
13. Millar, J.R., Nicholls, Z.R., Friedlingstein, P., Allen, M.R. A modified impulse-response representation of the global near-surface air temperature and atmospheric concentration response to carbon dioxide emissions (2017) *Atmospheric Chemistry and Physics*, 17 (11), pp. 7213-7228. DOI: 10.5194/acp-17-7213-2017
14. Zeng, Z., Piao, S., Li, L.Z.X., Zhou, L., Ciais, P., Wang, T., Li, Y., Lian, X., Wood, E.F., Friedlingstein, P., Mao, J., Estes, L.D., Myneni, R.B., Peng, S., Shi, X., Seneviratne, S.I., Wang, Y. Climate mitigation from

vegetation biophysical feedbacks during the past three decades (2017) *Nature Climate Change*, 7 (6), pp. 432-436. DOI: 10.1038/nclimate3299

15. Chadburn, S.E., Burke, E.J., Cox, P.M., Friedlingstein, P., Hugelius, G., Westermann, S. An observation-based constraint on permafrost loss as a function of global warming (2017) *Nature Climate Change*, 7 (5), pp. 340-344. DOI: 10.1038/nclimate3262
16. Ballantyne, A., Smith, W., Anderegg, W., Kauppi, P., Sarmiento, J., Tans, P., Shevliakova, E., Pan, Y., Poulter, B., Anav, A., Friedlingstein, P., Houghton, R., Running, S. Accelerating net terrestrial carbon uptake during the warming hiatus due to reduced respiration (2017) *Nature Climate Change*, 7 (2), pp. 148-152. DOI: 10.1038/nclimate3204
17. Jung, M., Reichstein, M., Schwalm, C.R., Huntingford, C., Sitch, S., Ahlström, A., Arneeth, A., Camps-Valls, G., Ciais, P., Friedlingstein, P., Gans, F., Ichii, K., Jain, A.K., Kato, E., Papale, D., Poulter, B., Raduly, B., Rödenbeck, C., Tramontana, G., Viovy, N., Wang, Y.-P., Weber, U., Zaehle, S., Zeng, N. Compensatory water effects link yearly global land CO<sub>2</sub> sink changes to temperature (2017) *Nature*, 541 (7638), pp. 516-520. DOI: 10.1038/nature20780
18. Li, W., Ciais, P., Wang, Y., Peng, S., Broquet, G., Ballantyne, A.P., Canadell, J.G., Cooper, L., Friedlingstein, P., Le Quéré, C., Myneni, R.B., Peters, G.P., Piao, S., Pongratz, J. Reducing uncertainties in decadal variability of the global carbon budget with multiple datasets (2016) *Proceedings of the National Academy of Sciences of the United States of America*, 113 (46), pp. 13104-13108. DOI: 10.1073/pnas.1603956113
19. Le Quéré, C., Andrew, R.M., Canadell, J.G., Sitch, S., Ivar Korsbakken, J., 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., Lombardozi, D., Melton, J.R., Metz, 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., Zaehle, S. Global Carbon Budget 2016 (2016) *Earth System Science Data*, 8 (2), pp. 605-649. DOI: 10.5194/essd-8-605-2016
20. Cervarich, M., Shu, S., Jain, A.K., Arneeth, A., Canadell, J., Friedlingstein, P., Houghton, R.A., Kato, E., Koven, C., Patra, P., Poulter, B., Sitch, S., Stocker, B., Viovy, N., Wiltshire, A., Zeng, N. The terrestrial carbon budget of South and Southeast Asia (2016) *Environmental Research Letters*, 11 (10), art. no. 105006, . DOI: 10.1088/1748-9326/11/10/105006
21. Lauer, A., Eyring, V., Righi, M., Buchwitz, M., Defourny, P., Evaldsson, M., Friedlingstein, P., de Jeu, R., de Leeuw, G., Loew, A., Merchant, C.J., Müller, B., Popp, T., Reuter, M., Sandven, S., Senftleben, D., Stengel, M., Van Roozendaal, M., Wenzel, S., Willén, U. Benchmarking CMIP5 models with a subset of ESA CCI Phase 2 data using the ESMValTool (2016) *Remote Sensing of Environment*, . Article in Press. DOI: 10.1016/j.rse.2017.01.007
22. O'Neill, B.C., Tebaldi, C., Van Vuuren, D.P., Eyring, V., Friedlingstein, P., Hurtt, G., Knutti, R., Kriegler, E., Lamarque, J.-F., Lowe, J., Meehl, G.A., Moss, R., Riahi, K., Sanderson, B.M. The Scenario Model Intercomparison Project (ScenarioMIP) for CMIP6 (2016) *Geoscientific Model Development*, 9 (9), pp. 3461-3482. DOI: 10.5194/gmd-9-3461-2016
23. Jones, C.D., Ciais, P., Davis, S.J., Friedlingstein, P., Gasser, T., Peters, G.P., Rogelj, J., Van Vuuren, D.P., Canadell, J.G., Cowie, A., Jackson, R.B., Jonas, M., Kriegler, E., Littleton, E., Lowe, J.A., Milne, J., Shrestha, G., Smith, P., Torvanger, A., Wiltshire, A. Simulating the Earth system response to negative emissions (2016) *Environmental Research Letters*, 11 (9), art. no. 095012, . DOI: 10.1088/1748-9326/11/9/095012
24. Zhao, F., Zeng, N., Asrar, G., Friedlingstein, P., Ito, A., Jain, A., Kalnay, E., Kato, E., Koven, C., Poulter, B., Rafique, R., Sitch, S., Shu, S., Stocker, B., Viovy, N., Wiltshire, A., 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 (2016) *Biogeosciences*, 13 (17), pp. 5121-5137. DOI: 10.5194/bg-13-5121-2016
25. Jones, C.D., Arora, V., Friedlingstein, P., Bopp, L., Brovkin, V., Dunne, J., Graven, H., Hoffman, F., Ilyina, T., John, J.G., Jung, M., Kawamiya, M., Koven, C., Pongratz, J., Raddatz, T., Randerson, J.T., Zaehle, S. C4MIP-The Coupled Climate-Carbon Cycle Model Intercomparison Project: Experimental protocol for CMIP6 (2016) *Geoscientific Model Development*, 9 (8), pp. 2853-2880. DOI: 10.5194/gmd-9-2853-2016
26. Zhu, Z., Piao, S., Myneni, R.B., Huang, M., Zeng, Z., Canadell, J.G., Ciais, P., Sitch, S., Friedlingstein, P., Arneeth, A., Cao, C., Cheng, L., Kato, E., Koven, C., Li, Y., Lian, X., Liu, Y., Liu, R., Mao, J., Pan, Y., Peng, S., Peuelas, J., Poulter, B., Pugh, T.A.M., Stocker, B.D., Viovy, N., Wang, X., Wang, Y., Xiao, Z., Yang, H., Zaehle, S., Zeng, N. Greening of the Earth and its drivers (2016) *Nature Climate Change*, 6 (8), pp. 791-795. DOI: 10.1038/nclimate3004

27. Harper, A.B., Cox, P.M., Friedlingstein, P., Wiltshire, A.J., Jones, C.D., Sitch, S., Mercado, L.M., Groenendijk, M., Robertson, E., Kattge, J., Bönsch, G., Atkin, O.K., Bahn, M., Cornelissen, J., Niinemets, Ü., Onipchenko, V., Peñuelas, J., Poorter, L., Reich, P.B., Soudzilovskaia, N.A., Van Bodegom, P. Improved representation of plant functional types and physiology in the Joint UK Land Environment Simulator (JULES v4.2) using plant trait information (2016) *Geoscientific Model Development*, 9 (7), pp. 2415-2440. DOI: 10.5194/gmd-9-2415-2016
28. Hallegatte, S., Rogelj, J., Allen, M., Clarke, L., Edenhofer, O., Field, C.B., Friedlingstein, P., Van Kesteren, L., Knutti, R., Mach, K.J., Mastrandrea, M., Michel, A., Minx, J., Oppenheimer, M., Plattner, G.-K., Riahi, K., Schaeffer, M., Stocker, T.F., Van Vuuren, D.P. Mapping the climate change challenge (2016) *Nature Climate Change*, 6 (7), pp. 663-668. DOI: 10.1038/nclimate3057
29. Hantson, S., Arneeth, A., Harrison, S.P., Kelley, D.I., Colin Prentice, I., Rabin, S.S., Archibald, S., Mouillot, F., Arnold, S.R., Artaxo, P., Bachelet, D., Ciais, P., Forrest, M., Friedlingstein, P., Hickler, T., Kaplan, J.O., Kloster, S., Knorr, W., Lasslop, G., Li, F., Mangeon, S., Melton, J.R., Meyn, A., Sitch, S., Spessa, A., Van Der Werf, G.R., Voulgarakis, A., Yue, C. The status and challenge of global fire modelling (2016) *Biogeosciences*, 13 (11), pp. 3359-3375. DOI: 10.5194/bg-13-3359-2016
30. Simmons, A., Fellous, J.-L., Ramaswamy, V., Trenberth, K., Asrar, G., Balmaseda, M., Burrows, J.P., Ciais, P., Drinkwater, M., Friedlingstein, P., Gobron, N., Guilyardi, E., Halpern, D., Heimann, M., Johannessen, J., Levelt, P.F., Lopez-Baeza, E., Penner, J., Scholes, R., Shepherd, T. Observation and integrated Earth-system science: A roadmap for 2016-2025 (2016) *Advances in Space Research*, 57 (10), pp. 2037-2103. DOI: 10.1016/j.asr.2016.03.008
31. Eyring, V., Righi, M., Lauer, A., Evaldsson, M., Wenzel, S., Jones, C., Anav, A., Andrews, O., Cionni, I., Davin, E.L., Deser, C., Ehbrecht, C., Friedlingstein, P., Gleckler, P., Gottschaldt, K.-D., Hagemann, S., Jukes, M., Kindermann, S., Krasting, J., Kunert, D., Levine, R., Loew, A., Mäkelä, J., Martin, G., Mason, E., Phillips, A.S., Read, S., Rio, C., Roehrig, R., Senfleben, D., Sterl, A., Van Ulft, L.H., Walton, J., Wang, S., Williams, K.D. ESMValTool (v1.0)-a community diagnostic and performance metrics tool for routine evaluation of Earth system models in CMIP (2016) *Geoscientific Model Development*, 9 (5), pp. 1747-1802. DOI: 10.5194/gmd-9-1747-2016
32. Anav, A., De Marco, A., Proietti, C., Alessandri, A., Dell'Aquila, A., Cionni, I., Friedlingstein, P., Khvorostyanov, D., Menut, L., Paoletti, E., Sicard, P., Sitch, S., Vitale, M. Comparing concentration-based (AOT40) and stomatal uptake (PODY) metrics for ozone risk assessment to European forests (2016) *Global Change Biology*, 22 (4), pp. 1608-1627. DOI: 10.1111/gcb.13138
33. Murray-Tortarolo, G., Friedlingstein, P., Sitch, S., Seneviratne, S.I., Fletcher, I., Mueller, B., Greve, P., Anav, A., Liu, Y., Ahlström, A., Huntingford, C., Levis, S., Levy, P., Lomas, M., Poulter, B., Viovy, N., Zaehle, S., Zeng, N. The dry season intensity as a key driver of NPP trends (2016) *Geophysical Research Letters*, 43 (6), pp. 2632-2639. DOI: 10.1002/2016GL068240
34. Tian, H., Lu, C., Ciais, P., Michalak, A.M., Canadell, J.G., Saikawa, E., Huntzinger, D.N., Gurney, K.R., Sitch, S., Zhang, B., Yang, J., Bousquet, P., Bruhwiler, L., Chen, G., Dlugokencky, E., Friedlingstein, P., Melillo, J., Pan, S., Poulter, B., Prinn, R., Saunio, M., Schwalm, C.R., Wofsy, S.C. The terrestrial biosphere as a net source of greenhouse gases to the atmosphere (2016) *Nature*, 531 (7593), pp. 225-228. DOI: 10.1038/nature16946
35. Rogelj, J., Schaeffer, M., Friedlingstein, P., Gillett, N.P., Van Vuuren, D.P., Riahi, K., Allen, M., Knutti, R. Differences between carbon budget estimates unravelled (2016) *Nature Climate Change*, 6 (3), pp. 245-252. DOI: 10.1038/nclimate2868
36. Bastos, A., Janssens, I.A., Gouveia, C.M., Trigo, R.M., Ciais, P., Chevallier, F., Peñuelas, J., Rödenbeck, C., Piao, S., Friedlingstein, P., Running, S.W. European land CO2 sink influenced by NAO and East-Atlantic Pattern coupling (2016) *Nature Communications*, 7, art. no. 10315, . DOI: 10.1038/ncomms10315
37. Murray-Tortarolo, G., Friedlingstein, P., Sitch, S., Jaramillo, V.J., Murguía-Flores, F., Anav, A., Liu, Y., Arneeth, A., Arvanitis, A., Harper, A., Jain, A., Kato, E., Koven, C., Poulter, B., Stocker, B.D., Wiltshire, A., Zaehle, S., Zeng, N. The carbon cycle in Mexico: Past, present and future of C stocks and fluxes (2016) *Biogeosciences*, 13 (1), pp. 223-238. DOI: 10.5194/bg-13-223-2016
38. Millar, R., Allen, M., Rogelj, J., Friedlingstein, P. The cumulative carbon budget and its implications (2016) *Oxford Review of Economic Policy*, 32 (2), pp. 323-342. DOI: 10.1093/oxrep/grw009
39. Wenzel, S., Cox, P.M., Eyring, V., Friedlingstein, P. Projected land photosynthesis constrained by changes in the seasonal cycle of atmospheric CO2 (2016) *Nature*, 538 (7626), pp. 499-501. DOI: 10.1038/nature19772
40. Smith, P., Davis, S.J., Creutzig, F., Fuss, S., Minx, J., Gabrielle, B., Kato, E., Jackson, R.B., Cowie, A., Kriegl, E., Van Vuuren, D.P., Rogelj, J., Ciais, P., Milne, J., Canadell, J.G., McCollum, D., Peters, G., Andrew, R., Krey, V., Shrestha, G., Friedlingstein, P., Gasser, T., Grübler, A., Heidug, W.K., Jonas, M., Jones, C.D., Kraxner, F., Littleton, E., Lowe, J., Moreira, J.R., Nakicenovic, N., Obersteiner, M., Patwardhan, A., Rogner, M., Rubin, E., Sharifi, A., Torvanger, A., Yamagata, Y., Edmonds, J., Yongsung,

- C. Biophysical and economic limits to negative CO<sub>2</sub> emissions (2016) *Nature Climate Change*, 6 (1), pp. 42-50. DOI: 10.1038/nclimate2870
41. Huntingford, C., Friedlingstein, P. More frequent moments in the climate change debate as emissions continue (2015) *Environmental Research Letters*, 10 (12), art. no. 121001, . DOI: 10.1088/1748-9326/10/12/121001
  42. 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., Arneeth, 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., S. Nabel, J.E.M., 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., Viogy, N., Wiltshire, A., Zaehle, S., Zeng, N. Global Carbon Budget 2015 (2015) *Earth System Science Data*, 7 (2), pp. 349-396. DOI: 10.5194/essd-7-349-2015
  43. Friedlingstein, P. Carbon cycle feedbacks and future climate change (2015) *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 373 (2054), DOI: 10.1098/rsta.2014.0421
  44. Peters, G.P., Andrew, R.M., Solomon, S., Friedlingstein, P. Measuring a fair and ambitious climate agreement using cumulative emissions (2015) *Environmental Research Letters*, 10 (10), art. no. 105004, DOI: 10.1088/1748-9326/10/10/105004
  45. Koven, C.D., Chambers, J.Q., Georgiou, K., Knox, R., Negron-Juarez, R., Riley, W.J., Arora, V.K., Brovkin, V., Friedlingstein, P., Jones, C.D. Controls on terrestrial carbon feedbacks by productivity versus turnover in the CMIP5 Earth System Models (2015) *Biogeosciences*, 12 (17), pp. 5211-5228. DOI: 10.5194/bg-12-5211-2015
  46. Anav, A., Friedlingstein, P., Beer, C., Ciais, P., Harper, A., Jones, C., Murray-Tortarolo, G., Papale, D., Parazoo, N.C., Peylin, P., Piao, S., Sitch, S., Viogy, N., Wiltshire, A., Zhao, M. Spatiotemporal patterns of terrestrial gross primary production: A review (2015) *Reviews of Geophysics*, 53 (3), pp. 785-818. DOI: 10.1002/2015RG000483
  47. Yang, H., Piao, S., Zeng, Z., Ciais, P., Yin, Y., Friedlingstein, P., Sitch, S., Ahlström, A., Guimberteau, M., Huntingford, C., Levis, S., Levy, P.E., Huang, M., Li, Y., Li, X., Lomas, M.R., Peylin, P., Poulter, B., Viogy, N., Zaehle, S., Zeng, N., Zhao, F., Wang, L. Multicriteria evaluation of discharge simulation in Dynamic Global Vegetation Models (2015) *Journal of Geophysical Research: Atmospheres*, 120 (15), pp. 7488-7505. DOI: 10.1002/2015JD023129
  48. Chadburn, S.E., Burke, E.J., Essery, R.L.H., Boike, J., Langer, M., Heikenfeld, M., Cox, P.M., Friedlingstein, P. Impact of model developments on present and future simulations of permafrost in a global land-surface model (2015) *Cryosphere*, 9 (4), pp. 1505-1521. DOI: 10.5194/tc-9-1505-2015
  49. Ahlström, A., Raupach, M.R., Schurgers, G., Smith, B., Arneeth, A., Jung, M., Reichstein, M., Canadell, J.G., Friedlingstein, P., Jain, A.K., Kato, E., Poulter, B., Sitch, S., Stocker, B.D., Viogy, N., Wang, Y.P., Wiltshire, A., Zaehle, S., Zeng, N. The dominant role of semi-arid ecosystems in the trend and variability of the land CO<sub>2</sub> sink (2015) *Science*, 348 (6237), pp. 895-899. DOI: 10.1126/science.aaa1668
  50. Chadburn, S., Burke, E., Essery, R., Boike, J., Langer, M., Heikenfeld, M., Cox, P., Friedlingstein, P. An improved representation of physical permafrost dynamics in the JULES land-surface model (2015) *Geoscientific Model Development*, 8 (5), pp. 1493-1508. DOI: 10.5194/gmd-8-1493-2015
  51. Le Quéré, C., Moriarty, R., Andrew, R.M., Peters, G.P., Ciais, P., Friedlingstein, P., Jones, S.D., Sitch, S., Tans, P., Arneeth, A., Boden, T.A., Bopp, L., Bozec, Y., Canadell, J.G., Chini, L.P., Chevallier, F., Cosca, C.E., Harris, I., Hoppema, M., Houghton, R.A., House, J.I., Jain, A.K., Johannessen, T., Kato, E., Keeling, R.F., Kitidis, V., Klein Goldewijk, K., Koven, C., Landa, C.S., Landschützer, P., Lenton, A., Lima, I.D., Marland, G., Mathis, J.T., Metzl, N., Nojiri, Y., Olsen, A., Ono, T., Peng, S., Peters, W., Pfeil, B., Poulter, B., Raupach, M.R., Regnier, P., Rödenbeck, C., Saito, S., Salisbury, J.E., Schuster, U., Schwinger, J., Séférian, R., Segschneider, J., Steinhoff, T., Stocker, B.D., Sutton, A.J., Takahashi, T., Tilbrook, B., Van Der Werf, G.R., Viogy, N., Wang, Y.-P., Wanninkhof, R., Wiltshire, A., Zeng, N. Global carbon budget 2014 (2015) *Earth System Science Data*, 7 (1), pp. 47-85. DOI: 10.5194/essd-7-47-2015
  52. Sitch, S., Friedlingstein, P., Gruber, N., Jones, S.D., Murray-Tortarolo, G., Ahlström, A., Doney, S.C., Graven, H., Heinze, C., Huntingford, C., Levis, S., Levy, P.E., Lomas, M., Poulter, B., Viogy, N., Zaehle, S., Zeng, N., Arneeth, A., Bonan, G., Bopp, L., Canadell, J.G., Chevallier, F., Ciais, P., Ellis, R., Gloor, M., Peylin, P., Piao, S.L., Le Quéré, C., Smith, B., Zhu, Z., Myneni, R. Recent trends and drivers of regional sources and sinks of carbon dioxide (2015) *Biogeosciences*, 12 (3), pp. 653-679. DOI: 10.5194/bg-12-653-2015

53. Frank, D.C., Poulter, B., Saurer, M., Esper, J., Huntingford, C., Helle, G., Treydte, K., Zimmermann, N.E., Schleser, G.H., Ahlström, A., Ciais, P., Friedlingstein, P., Levis, S., Lomas, M., Sitch, S., Viovy, N., Andreu-Hayles, L., Bednarz, Z., Berninger, F., Boettger, T., D'alessandro, C.M., Daux, V., Filot, M., Grabner, M., Gutierrez, E., Haupt, M., Hiltunen, E., Jungner, H., Kalela-Brundin, M., Krapiec, M., Leuenberger, M., Loader, N.J., Marah, H., Masson-Delmotte, V., Pazdur, A., Pawelczyk, S., Pierre, M., Planells, O., Pukiene, R., Reynolds-Henne, C.E., Rinne, K.T., Saracino, A., Sonninen, E., Stevenard, M., Switsur, V.R., Szczepanek, M., Szychowska-Krapiec, E., Todaro, L., Waterhouse, J.S., Weigl, M. Water-use efficiency and transpiration across European forests during the Anthropocene (2015) *Nature Climate Change*, 5 (6), pp. 579-583. DOI: 10.1038/nclimate2614
54. Yue, C., Ciais, P., Cadule, P., Thonicke, K., Archibald, S., Poulter, B., Hao, W.M., Hantson, S., Mouillot, F., Friedlingstein, P., Maignan, F., Viovy, N. Modelling the role of fires in the terrestrial carbon balance by incorporating SPITFIRE into the global vegetation model ORCHIDEE - Part 1: Simulating historical global burned area and fire regimes (2014) *Geoscientific Model Development*, 7 (6), pp. 2747-2767. DOI: 10.5194/gmd-7-2747-2014
55. Piao, S., Nan, H., Huntingford, C., Ciais, P., Friedlingstein, P., Sitch, S., Peng, S., Ahlström, A., Canadell, J.G., Cong, N., Levis, S., Levy, P.E., Liu, L., Lomas, M.R., Mao, J., Myneni, R.B., Peylin, P., Poulter, B., Shi, X., Yin, G., Viovy, N., Wang, T., Wang, X., Zaehle, S., Zeng, N., Zeng, Z., Chen, A. Evidence for a weakening relationship between interannual temperature variability and northern vegetation activity (2014) *Nature Communications*, 5, art. no. 5018, DOI: 10.1038/ncomms6018
56. Le Quéré, C., Peters, G.P., Andres, R.J., Andrew, R.M., Boden, T.A., Ciais, P., Friedlingstein, P., Houghton, R.A., Marland, G., Moriarty, R., Sitch, S., Tans, P., Armeth, A., Arvanitis, A., Bakker, D.C.E., Bopp, L., Canadell, J.G., Chini, L.P., Doney, S.C., Harper, A., Harris, I., House, J.I., Jain, A.K., Jones, S.D., Kato, E., Keeling, R.F., Klein Goldewijk, K., Körtzinger, A., Koven, C., Lefèvre, N., Maignan, F., Omar, A., Ono, T., Park, G.-H., Pfeil, B., Poulter, B., Raupach, M.R., Regnier, P., Rödenbeck, C., Saito, S., Schwinger, J., Segschneider, J., Stocker, B.D., Takahashi, T., Tilbrook, B., Van Heuven, S., Viovy, N., Wanninkhof, R., Wiltshire, A., Zaehle, S. Global carbon budget 2013 (2014) *Earth System Science Data*, 6 (1), pp. 235-263. DOI: 10.5194/essd-6-235-2014
57. Fletcher, I.N., Aragão, L.E.O.C., Lima, A., Shimabukuro, Y., Friedlingstein, P. Fractal properties of forest fires in Amazonia as a basis for modelling pan-tropical burnt area (2014) *Biogeosciences*, 11 (6), pp. 1449-1459. DOI: 10.5194/bg-11-1449-2014
58. Wang, X., Piao, S., Ciais, P., Friedlingstein, P., Myneni, R.B., Cox, P., Heimann, M., Miller, J., Peng, S., Wang, T., Yang, H., Chen, A. A two-fold increase of carbon cycle sensitivity to tropical temperature variations (2014) *Nature*, 506 (7487), pp. 212-215. DOI: 10.1038/nature12915
59. Friedlingstein, P., Meinshausen, M., Arora, V.K., Jones, C.D., Anav, A., Liddicoat, S.K., Knutti, R. Uncertainties in CMIP5 climate projections due to carbon cycle feedbacks (2014) *Journal of Climate*, 27 (2), pp. 511-526. DOI: 10.1175/JCLI-D-12-00579.1
60. Friedlingstein, P., Andrew, R.M., Rogelj, J., Peters, G.P., Canadell, J.G., Knutti, R., Luderer, G., Raupach, M.R., Schaeffer, M., Van Vuuren, D.P., Le Quéré, C. Persistent growth of CO2 emissions and implications for reaching climate targets (2014) *Nature Geoscience*, 7 (10), pp. 709-715. DOI: 10.1038/NGEO2248
61. Wenzel, S., Cox, P.M., Eyring, V., Friedlingstein, P. Emergent constraints on climate-carbon cycle feedbacks in the CMIP5 Earth system models (2014) *Journal of Geophysical Research: Biogeosciences*, 119 (5), pp. 794-807. DOI: 10.1002/2013JG002591
62. Raupach, M.R., Davis, S.J., Peters, G.P., Andrew, R.M., Canadell, J.G., Ciais, P., Friedlingstein, P., Jotzo, F., Van Vuuren, D.P., Le Quéré, C. Sharing a quota on cumulative carbon emissions (2014) *Nature Climate Change*, 4 (10), pp. 873-879. DOI: 10.1038/nclimate2384
63. Foley, A.M., Dalmonech, D., Friend, A.D., Aires, F., Archibald, A.T., Bartlein, P., Bopp, L., Chappellaz, J., Cox, P., Edwards, N.R., Feulner, G., Friedlingstein, P., Harrison, S.P., Hopcroft, P.O., Jones, C.D., Kolassa, J., Levine, J.G., Prentice, I.C., Pyle, J., Vázquez Riveiros, N., Wolff, E.W., Zaehle, S. Evaluation of biospheric components in earth system models using modern and palaeo-observations: The state-of-the-art (2013) *Biogeosciences*, 10 (12), pp. 8305-8328. DOI: 10.5194/bg-10-8305-2013
64. Morfopoulos, C., Prentice, I.C., Keenan, T.F., Friedlingstein, P., Medlyn, B.E., Peñuelas, J., Possell, M. A unifying conceptual model for the environmental responses of isoprene emissions from plants (2013) *Annals of Botany*, 112 (7), pp. 1223-1238. DOI: 10.1093/aob/mct206
65. Tebaldi, C., Friedlingstein, P. Delayed detection of climate mitigation benefits due to climate inertia and variability (2013) *Proceedings of the National Academy of Sciences of the United States of America*, 110 (43), pp. 17229-17234. DOI: 10.1073/pnas.1300005110
66. Murray-Tortarolo, G., Anav, A., Friedlingstein, P., Sitch, S., Piao, S., Zhu, Z., Poulter, B., Zaehle, S., Ahlström, A., Lomas, M., Levis, S., Viovy, N., Zeng, N. Evaluation of land surface models in reproducing satellite-derived LAI over the high-latitude northern hemisphere. Part I: Uncoupled DGVMs (2013) *Remote Sensing*, 5 (10), pp. 4819-4838. DOI: 10.3390/rs5104819

67. Anav, A., Murray-Tortarolo, G., Friedlingstein, P., Sitch, S., Piao, S., Zhu, Z. Evaluation of land surface models in reproducing satellite derived leaf area index over the high-latitude northern hemisphere. Part II: Earth system models (2013) *Remote Sensing*, 5 (8), pp. 3637-3661. DOI: 10.3390/rs5083637
68. Ciais, P., Gasser, T., Paris, J.D., Caldeira, K., Raupach, M.R., Canadell, J.G., Patwardhan, A., Friedlingstein, P., Piao, S.L., Gitz, V. Attributing the increase in atmospheric CO<sub>2</sub> to emitters and absorbers (2013) *Nature Climate Change*, 3 (10), pp. 926-930. DOI: 10.1038/nclimate1942
69. Anav, A., Friedlingstein, P., Kidston, M., Bopp, L., Ciais, P., Cox, P., Jones, C., Jung, M., Myneni, R., Zhu, Z. Evaluating the land and ocean components of the global carbon cycle in the CMIP5 earth system models (2013) *Journal of Climate*, 26 (18), pp. 6801-6843. DOI: 10.1175/JCLI-D-12-00417.1
70. Brovkin, V., Boysen, L., Arora, V.K., Boisier, J.P., Cadule, P., Chini, L., Claussen, M., Friedlingstein, P., Gayler, V., Van den hurk, B.J.J.M., Hurtt, G.C., Jones, C.D., Kato, E., De noblet-ducoudre, N., Pacifico, F., Pongratz, J., Weiss, M. Effect of anthropogenic land-use and land-cover changes on climate and land carbon storage in CMIP5 projections for the twenty-first century (2013) *Journal of Climate*, 26 (18), pp. 6859-6881. DOI: 10.1175/JCLI-D-12-00623.1
71. Arora, V.K., Boer, G.J., Friedlingstein, P., Eby, M., Jones, C.D., Christian, J.R., Bonan, G., Bopp, L., Brovkin, V., Cadule, P., Hajima, T., Ilyina, T., Lindsay, K., Tjiputra, J.F., Wu, T. Carbon-concentration and carbon-climate feedbacks in CMIP5 earth system models (2013) *Journal of Climate*, 26 (15), pp. 5289-5314. DOI: 10.1175/JCLI-D-12-00494.1
72. Regnier, P., Friedlingstein, P., Ciais, P., Mackenzie, F.T., Gruber, N., Janssens, I.A., Laruelle, G.G., Lauerwald, R., Luyssaert, S., Andersson, A.J., Arndt, S., Arnosti, C., Borges, A.V., Dale, A.W., Gallego-Sala, A., Godd ris, Y., Goossens, N., Hartmann, J., Heinze, C., Ilyina, T., Joos, F., Larowe, D.E., Leifeld, J., Meysman, F.J.R., Munhoven, G., Raymond, P.A., Spahni, R., Suntharalingam, P., Thullner, M. Anthropogenic perturbation of the carbon fluxes from land to ocean (2013) *Nature Geoscience*, 6 (8), pp. 597-607. DOI: 10.1038/ngeo1830
73. Zickfeld, K., Eby, M., Weaver, A.J., Alexander, K., Crespin, E., Edwards, N.R., Eliseev, A.V., Feulner, G., Fichet, T., Forest, C.E., Friedlingstein, P., Goosse, H., Holden, P.B., Joos, F., Kawamiya, M., Kicklighter, D., Kienert, H., Matsumoto, K., Mokhov, I.I., Monier, E., Olsen, S.M., Pedersen, J.O.P., Perrette, M., Philippon-Berthier, G., Ridgwell, A., Schlosser, A., Von Deimling, T.S., Shaffer, G., Sokolov, A., Spahni, R., Steinacher, M., Tachiiri, K., Tokos, K.S., Yoshimori, M., Zeng, N., Zhao, F. Long-Term climate change commitment and reversibility: An EMIC intercomparison (2013) *Journal of Climate*, 26 (16), pp. 5782-5809. DOI: 10.1175/JCLI-D-12-00584.1
74. Jones, C., Robertson, E., Arora, V., Friedlingstein, P., Shevliakova, E., Bopp, L., Brovkin, V., Hajima, T., Kato, E., Kawamiya, M., Liddicoat, S., Lindsay, K., Reick, C.H., Roelandt, C., Segschneider, J., Tjiputra, J. Twenty-first-century compatible co<sub>2</sub> emissions and airborne fraction simulated by cmip5 earth system models under four representative concentration pathways (2013) *Journal of Climate*, 26 (13), pp. 4398-4413. DOI: 10.1175/JCLI-D-12-00554.1
75. Piao, S., Sitch, S., Ciais, P., Friedlingstein, P., Peylin, P., Wang, X., Ahlstr m, A., Anav, A., Canadell, J.G., Cong, N., Huntingford, C., Jung, M., Levis, S., Levy, P.E., Li, J., Lin, X., Lomas, M.R., Lu, M., Luo, Y., Ma, Y., Myneni, R.B., Poulter, B., Sun, Z., Wang, T., Viovy, N., Zaehle, S., Zeng, N. Evaluation of terrestrial carbon cycle models for their response to climate variability and to CO<sub>2</sub> trends (2013) *Global Change Biology*, 19 (7), pp. 2117-2132. DOI: 10.1111/gcb.12187
76. Le Qu r , C., Andres, R.J., Boden, T., Conway, T., Houghton, R.A., House, J.I., Marland, G., Peters, G.P., Van Der Werf, G.R., Ahlstr m, A., Andrew, R.M., Bopp, L., Canadell, J.G., Ciais, P., Doney, S.C., Enright, C., Friedlingstein, P., Huntingford, C., Jain, A.K., Jourdain, C., Kato, E., Keeling, R.F., Klein Goldewijk, K., Levis, S., Levy, P., Lomas, M., Poulter, B., Raupach, M.R., Schwinger, J., Sitch, S., Stocker, B.D., Viovy, N., Zaehle, S., Zeng, N. The global carbon budget 1959-2011 (2013) *Earth System Science Data*, 5 (1), pp. 165-185. DOI: 10.5194/essd-5-165-2013
77. Booth, B.B.B., Bernie, D., McNeall, D., Hawkins, E., Caesar, J., Boulton, C., Friedlingstein, P., Sexton, D.M.H. Scenario and modelling uncertainty in global mean temperature change derived from emission-driven global climate models (2013) *Earth System Dynamics*, 4 (1), pp. 95-108. DOI: 10.5194/esd-4-95-2013
78. Dufresne, J.-L., Foujols, M.-A., Denvil, S., Caubel, A., Marti, O., Aumont, O., Balkanski, Y., Bekki, S., Bellenger, H., Benshila, R., Bony, S., Bopp, L., Braconnot, P., Brockmann, P., Cadule, P., Cheruy, F., Codron, F., Cozic, A., Cugnet, D., de Noblet, N., Duvel, J.-P., Eth , C., Fairhead, L., Fichet, T., Flavoni, S., Friedlingstein, P., Grandpeix, J.-Y., Guez, L., Guilyardi, E., Hauglustaine, D., Hourdin, F., Idelkadi, A., Ghattas, J., Joussaume, S., Kageyama, M., Krinner, G., Labetoulle, S., Lahellec, A., Lefebvre, M.-P., Lefevre, F., Levy, C., Li, Z.X., Lloyd, J., Lott, F., Madec, G., Mancip, M., Marchand, M., Masson, S., Meurdesoif, Y., Mignot, J., Musat, I., Parouty, S., Polcher, J., Rio, C., Schulz, M., Swingedouw, D., Szopa, S., Talandier, C., Terray, P., Viovy, N., Vuichard, N. Climate change projections using the IPSL-CM5 Earth

- System Model: From CMIP3 to CMIP5 (2013) *Climate Dynamics*, 40 (9-10), pp. 2123-2165. DOI: 10.1007/s00382-012-1636-1
79. Cox, P.M., Pearson, D., Booth, B.B., Friedlingstein, P., Huntingford, C., Jones, C.D., Luke, C.M. Sensitivity of tropical carbon to climate change constrained by carbon dioxide variability (2013) *Nature*, 494 (7437), pp. 341-344. DOI: 10.1038/nature11882
  80. Peng, S., Piao, S., Ciais, P., Friedlingstein, P., Zhou, L., Wang, T. Change in snow phenology and its potential feedback to temperature in the Northern Hemisphere over the last three decades (2013) *Environmental Research Letters*, 8 (1), art. no. 014008, . DOI: 10.1088/1748-9326/8/1/014008
  81. Guenet, B., Cadule, P., Zaehle, S., Piao, S.L., Peylin, P., Maignan, F., Ciais, P., Friedlingstein, P. Does the integration of the dynamic nitrogen cycle in a terrestrial biosphere model improve the long-term trend of the leaf area index? (2013) *Climate Dynamics*, 40 (9-10), pp. 2535-2548. DOI: 10.1007/s00382-012-1388-y
  82. Daniau, A.-L., Bartlein, P.J., Harrison, S.P., Prentice, I.C., Brewer, S., Friedlingstein, P., Harrison-Prentice, T.I., Inoue, J., Izumi, K., Marlon, J.R., Mooney, S., Power, M.J., Stevenson, J., Tinner, W., Andrić, M., Atanassova, J., Behling, H., Black, M., Blarquez, O., Brown, K.J., Carcaillet, C., Colhoun, E.A., Colombaroli, D., Davis, B.A.S., D'Costa, D., Dodson, J., Dupont, L., Eshetu, Z., Gavin, D.G., Genies, A., Haberle, S., Hallett, D.J., Hope, G., Horn, S.P., Kassa, T.G., Katamura, F., Kennedy, L.M., Kershaw, P., Krivonogov, S., Long, C., Magri, D., Marinova, E., McKenzie, G.M., Moreno, P.I., Moss, P., Neumann, F.H., Norström, E., Paitre, C., Rius, D., Roberts, N., Robinson, G.S., Sasaki, N., Scott, L., Takahara, H., Terwilliger, V., Thevenon, F., Turner, R., Valsecchi, V.G., Vannière, B., Walsh, M., Williams, N., Zhang, Y. Predictability of biomass burning in response to climate changes (2012) *Global Biogeochemical Cycles*, 26 (4), art. no. GB4007, . DOI: 10.1029/2011GB004249
  83. Luo, Y.Q., Randerson, J.T., Abramowitz, G., Bacour, C., Blyth, E., Carvalhais, N., Ciais, P., Dalmonech, D., Fisher, J.B., Fisher, R., Friedlingstein, P., Hibbard, K., Hoffman, F., Huntzinger, D., Jones, C.D., Koven, C., Lawrence, D., Li, D.J., Mahecha, M., Niu, S.L., Norby, R., Piao, S.L., Qi, X., Peylin, P., Prentice, I.C., Riley, W., Reichstein, M., Schwalm, C., Wang, Y.P., Xia, J.Y., Zaehle, S., Zhou, X.H. A framework for benchmarking land models (2012) *Biogeosciences*, 9 (10), pp. 3857-3874. DOI: 10.5194/bg-9-3857-2012
  84. Morfopoulos, C., Foster, P.N., Friedlingstein, P., Bousquet, P., Prentice, I.C. A global model for the uptake of atmospheric hydrogen by soils (2012) *Global Biogeochemical Cycles*, 26 (3), art. no. GB3013, . DOI: 10.1029/2011GB004248
  85. Ringeval, B., Decharme, B., Piao, S.L., Ciais, P., Papa, F., De Noblet-Ducoudré, N., Prigent, C., Friedlingstein, P., Gouttevin, I., Koven, C., Ducharne, A. Modelling sub-grid wetland in the ORCHIDEE global land surface model: Evaluation against river discharges and remotely sensed data (2012) *Geoscientific Model Development*, 5 (4), pp. 941-962. DOI: 10.5194/gmd-5-941-2012
  86. Peng, S., Piao, S., Ciais, P., Friedlingstein, P., Oettle, C., Bréon, F.-M., Nan, H., Zhou, L., Myneni, R.B. Response to comment on "Surface urban heat island across 419 global big cities" (2012) *Environmental Science and Technology*, 46 (12), pp. 6889-6890. DOI: 10.1021/es301811b
  87. Daniel, J.S., Solomon, S., Sanford, T.J., McFarland, M., Fuglestedt, J.S., Friedlingstein, P. Limitations of single-basket trading: Lessons from the Montreal Protocol for climate policy (2012) *Climatic Change*, 111 (2), pp. 241-248. DOI: 10.1007/s10584-011-0136-3
  88. Peng, S., Piao, S., Ciais, P., Friedlingstein, P., Oettle, C., Bréon, F.-M., Nan, H., Zhou, L., Myneni, R.B. Surface urban heat island across 419 global big cities (2012) *Environmental Science and Technology*, 46 (2), pp. 696-703. DOI: 10.1021/es2030438
  89. Friedlingstein, P., Solomon, S., Plattner, G.-K., Knutti, R., Ciais, P., Raupach, M.R. Long-term climate implications of twenty-first century options for carbon dioxide emission mitigation (2011) *Nature Climate Change*, 1 (9), pp. 457-461. DOI: 10.1038/nclimate1302
  90. Chen, A., Piao, S., Luyssaert, S., Ciais, P., Janssens, I.A., Friedlingstein, P., Luo, Y., Yavitt, J.B. Forest annual carbon cost: Reply (2011) *Ecology*, 92 (10), pp. 1998-2002. DOI: 10.1890/11-0785.1
  91. Koven, C.D., Ringeval, B., Friedlingstein, P., Ciais, P., Cadule, P., Khvorostyanov, D., Krinner, G., Tarnocai, C. Permafrost carbon-climate feedbacks accelerate global warming (2011) *Proceedings of the National Academy of Sciences of the United States of America*, 108 (36), pp. 14769-14774. DOI: 10.1073/pnas.1103910108
  92. Ringeval, B., Friedlingstein, P., Koven, C., Ciais, P., De Noblet-Ducoudré, N., Decharme, B., Cadule, P. Climate-CH 4 feedback from wetlands and its interaction with the climate-CO 2 feedback (2011) *Biogeosciences*, 8 (8), pp. 2137-2157. DOI: 10.5194/bg-8-2137-2011
  93. Prentice, I.C., Kelley, D.I., Foster, P.N., Friedlingstein, P., Harrison, S.P., Bartlein, P.J. Modeling fire and the terrestrial carbon balance (2011) *Global Biogeochemical Cycles*, 25 (3), art. no. GB3005, . DOI: 10.1029/2010GB003906
  94. Raupach, M.R., Canadell, J.G., Ciais, P., Friedlingstein, P., Rayner, P.J., Trudinger, C.M. The relationship between peak warming and cumulative CO<sub>2</sub> emissions, and its use to quantify vulnerabilities in the carbon-

climate-human system (2011) *Tellus, Series B: Chemical and Physical Meteorology*, 63 (2), pp. 145-164. DOI: 10.1111/j.1600-0889.2010.00521.x

95. Singarayer, J.S., Valdes, P.J., Friedlingstein, P., Nelson, S., Beerling, D.J. Late Holocene methane rise caused by orbitally controlled increase in tropical sources (2011) *Nature*, 470 (7332), pp. 82-86. DOI: 10.1038/nature09739
96. Piao, S., Ciais, P., Lomas, M., Beer, C., Liu, H., Fang, J., Friedlingstein, P., Huang, Y., Muraoka, H., Son, Y., Woodward, I. Contribution of climate change and rising CO<sub>2</sub> to terrestrial carbon balance in East Asia: A multi-model analysis (2011) *Global and Planetary Change*, 75 (3-4), pp. 133-142. DOI: 10.1016/j.gloplacha.2010.10.014
97. Wang, X., Piao, S., Ciais, P., Li, J., Friedlingstein, P., Koven, C., Chen, A. Spring temperature change and its implication in the change of vegetation growth in North America from 1982 to 2006 (2011) *Proceedings of the National Academy of Sciences of the United States of America*, 108 (4), pp. 1240-1245. DOI: 10.1073/pnas.1014425108
98. Jones, C.D., Hughes, J.K., Bellouin, N., Hardiman, S.C., Jones, G.S., Knight, J., Liddicoat, S., O'Connor, F.M., Andres, R.J., Bell, C., Boo, K.-O., Bozzo, A., Butchart, N., Cadule, P., Corbin, K.D., Doutriaux-Boucher, M., Friedlingstein, P., Gornall, J., Gray, L., Halloran, P.R., Hurtt, G., Ingram, W.J., Lamarque, J.-F., Law, R.M., Meinshausen, M., Osprey, S., Palin, E.J., Parsons Chini, L., Raddatz, T., Sanderson, M.G., Sellar, A.A., Schurer, A., Valdes, P., Wood, N., Woodward, S., Yoshioka, M., Zerroukat, M. The HadGEM2-ES implementation of CMIP5 centennial simulations (2011) *Geoscientific Model Development*, 4 (3), pp. 543-570. DOI: 10.5194/gmd-4-543-2011
99. Friedlingstein, P., Houghton, R.A., Marland, G., Hackler, J., Boden, T.A., Conway, T.J., Canadell, J.G., Raupach, M.R., Ciais, P., Le Quéré, C. Update on CO<sub>2</sub> emissions (2010) *Nature Geoscience*, 3 (12), pp. 811-812. DOI: 10.1038/ngeo1022
100. O'Connor, F.M., Boucher, O., Gedney, N., Jones, C.D., Folberth, G.A., Coppel, R., Friedlingstein, P., Collins, W.J., Chappellaz, J., Ridley, J., Johnson, C.E. Possible role of wetlands, permafrost, and methane hydrates in the methane cycle under future climate change: A review (2010) *Reviews of Geophysics*, 48 (4), art. no. RG4005, . DOI: 10.1029/2010RG000326
101. Solomon, S., Daniel, J.S., Sanford, T.J., Murphy, D.M., Plattner, G.-K., Knutti, R., Friedlingstein, P. Persistence of climate changes due to a range of greenhouse gases (2010) *Proceedings of the National Academy of Sciences of the United States of America*, 107 (43), pp. 18354-18359. DOI: 10.1073/pnas.1006282107
102. Friedlingstein, P., Prentice, I.C. Carbon-climate feedbacks: A review of model and observation based estimates (2010) *Current Opinion in Environmental Sustainability*, 2 (4), pp. 251-257. DOI: 10.1016/j.cosust.2010.06.002
103. Canadell, J.G., Ciais, P., Dhakal, S., Dolman, H., Friedlingstein, P., Gurney, K.R., Held, A., Jackson, R.B., Le Quéré, C., Malone, E.L., Ojima, D.S., Patwardhan, A., Peters, G.P., Raupach, M.R. Interactions of the carbon cycle, human activity, and the climate system: A research portfolio (2010) *Current Opinion in Environmental Sustainability*, 2 (4), pp. 301-311. DOI: 10.1016/j.cosust.2010.08.003
104. Piao, S., Ciais, P., Huang, Y., Shen, Z., Peng, S., Li, J., Zhou, L., Liu, H., Ma, Y., Ding, Y., Friedlingstein, P., Liu, C., Tan, K., Yu, Y., Zhang, T., Fang, J. The impacts of climate change on water resources and agriculture in China (2010) *Nature*, 467 (7311), pp. 43-51. DOI: 10.1038/nature09364
105. Cadule, P., Friedlingstein, P., Bopp, L., Sitch, S., Jones, C.D., Ciais, P., Piao, S.L., Peylin, P. Benchmarking coupled climate-carbon models against long-term atmospheric CO<sub>2</sub> measurements (2010) *Global Biogeochemical Cycles*, 24 (2), art. no. GB2016, . DOI: 10.1029/2009GB003556
106. Piao, S., Luysaert, S., Ciais, P., Janssens, I.A., Chen, A., Chao, C.A.O., Fang, J., Friedlingstein, P., Yiqi, L.U.O., Wang, S. Forest annual carbon cost: A global-scale analysis of autotrophic respiration (2010) *Ecology*, 91 (3), pp. 652-661. DOI: 10.1890/08-2176.1
107. Friedlingstein, P., Cadule, P., Piao, S.L., Ciais, P., Sitch, S. The African contribution to the global climate-carbon cycle feedback of the 21st century (2010) *Biogeosciences*, 7 (2), pp. 513-519.
108. Zaehle, S., Friend, A.D., Friedlingstein, P., Dentener, F., Peylin, P., Schulz, M. Carbon and nitrogen cycle dynamics in the O-CN land surface model: 2. Role of the nitrogen cycle in the historical terrestrial carbon balance (2010) *Global Biogeochemical Cycles*, 24 (1), art. no. GB1006, . DOI: 10.1029/2009GB003522,2010
109. Zaehle, S., Friedlingstein, P., Friend, A.D. Terrestrial nitrogen feedbacks may accelerate future climate change (2010) *Geophysical Research Letters*, 37 (1), art. no. L01401, . DOI: 10.1029/2009GL041345
110. Marti, O., Braconnot, P., Dufresne, J.-L., Bellier, J., Benshila, R., Bony, S., Brockmann, P., Cadule, P., Caubel, A., Codron, F., De Noblet, N., Denvil, S., Fairhead, L., Fichefet, T., Foujols, M.-A., Friedlingstein, P., Goosse, H., Grandpeix, J.-Y., Guilyardi, E., Hourdin, F., Idelkadi, A., Kageyama, M., Krinner, G., Lévy, C., Madec, G., Mignot, J., Musat, I., Swingedouw, D., Talandier, C. Key features of the IPSL ocean



- atmosphere model and its sensitivity to atmospheric resolution (2010) *Climate Dynamics*, 34 (1), pp. 1-26. DOI: 10.1007/s00382-009-0640-6
111. Ciais, P., Piao, S.-L., Cadule, P., Friedlingstein, P., Chédin, A. Variability and recent trends in the African terrestrial carbon balance (2009) *Biogeosciences*, 6 (9), pp. 1935-1948.
  112. Le Quéré, C., Raupach, M.R., Canadell, J.G., Marland, G., Bopp, L., Ciais, P., Conway, T.J., Doney, S.C., Feely, R.A., Foster, P., Friedlingstein, P., Gurney, K., Houghton, R.A., House, J.I., Huntingford, C., Levy, P.E., Lomas, M.R., Majkut, J., Metzl, N., Ometto, J.P., Peters, G.P., Prentice, I.C., Randerson, J.T., Running, S.W., Sarmiento, J.L., Schuster, U., Sitch, S., Takahashi, T., Viovy, N., Van Der Werf, G.R., Woodward, F.I. Trends in the sources and sinks of carbon dioxide (2009) *Nature Geoscience*, 2 (12), pp. 831-836. DOI: 10.1038/ngeo689
  113. Koven, C., Friedlingstein, P., Ciais, P., Khvorostyanov, D., Krinner, G., Tarnocai, C. On the formation of high-latitude soil carbon stocks: Effects of cryoturbation and insulation by organic matter in a land surface model (2009) *Geophysical Research Letters*, 36 (21), art. no. L21501, . DOI: 10.1029/2009GL040150
  114. Gregory, J.M., Jones, C.D., Cadule, P., Friedlingstein, P. Quantifying carbon cycle feedbacks (2009) *Journal of Climate*, 22 (19), pp. 5232-5250. DOI: 10.1175/2009JCLI2949.1
  115. Piao, S., Ciais, P., Friedlingstein, P., De Noblet-Ducoudré, N., Cadule, P., Viovy, N., Wang, T. Spatiotemporal patterns of terrestrial carbon cycle during the 20th century (2009) *Global Biogeochemical Cycles*, 23 (4), art. no. GB4026, . DOI: 10.1029/2008GB003339
  116. Cadule, P., Bopp, L., Friedlingstein, P. A revised estimate of the processes contributing to global warming due to climate-carbon feedback (2009) *Geophysical Research Letters*, 36 (14), art. no. L14705, . DOI: 10.1029/2009GL038681
  117. Piao, S., Friedlingstein, P., Ciais, P., Peylin, P., Zhu, B., Reichstein, M. Footprint of temperature changes in the temperate and boreal forest carbon balance (2009) *Geophysical Research Letters*, 36 (7), art. no. L07404, . DOI: 10.1029/2009GL037381
  118. Solomon, S., Plattner, G.-K., Knutti, R., Friedlingstein, P. Irreversible climate change due to carbon dioxide emissions (2009) *Proceedings of the National Academy of Sciences of the United States of America*, 106 (6), pp. 1704-1709. DOI: 10.1073/pnas.0812721106
  119. Boucher, O., Friedlingstein, P., Collins, B., Shine, K.P. The indirect global warming potential and global temperature change potential due to methane oxidation (2009) *Environmental Research Letters*, 4 (4), art. no. 044007, . DOI: 10.1088/1748-9326/4/4/044007
  120. Sitch, S., Huntingford, C., Gedney, N., Levy, P.E., Lomas, M., Piao, S.L., Betts, R., Ciais, P., Cox, P., Friedlingstein, P., Jones, C.D., Prentice, I.C., Woodward, F.I. Evaluation of the terrestrial carbon cycle, future plant geography and climate-carbon cycle feedbacks using five Dynamic Global Vegetation Models (DGVMs) (2008) *Global Change Biology*, 14 (9), pp. 2015-2039. DOI: 10.1111/j.1365-2486.2008.01626.x
  121. Knutti, R., Allen, M.R., Friedlingstein, P., Gregory, J.M., Hegerl, G.C., Meehl, G.A., Meinshausen, M., Murphy, J.M., Plattner, G.-K., Raper, S.C.B., Stocker, T.F., Stott, P.A., Teng, H., Wigley, T.M.L. A review of uncertainties in global temperature projections over the twenty-first century (2008) *Journal of Climate*, 21 (11), pp. 2651-2663. DOI: 10.1175/2007JCLI2119.1
  122. Schneider, B., Bopp, L., Gehlen, M., Segsneider, J., Frölicher, T.L., Cadule, P., Friedlingstein, P., Doney, S.C., Behrenfeld, M.J., Joos, F. Climate-induced interannual variability of marine primary and export production in three global coupled climate carbon cycle models (2008) *Biogeosciences*, 5 (2), pp. 597-614.
  123. Friedlingstein, P. A steep road to climate stabilization (2008) *Nature*, 451 (7176), pp. 297-298. DOI: 10.1038/nature06593
  124. Piao, S., Ciais, P., Friedlingstein, P., Peylin, P., Reichstein, M., Luyssaert, S., Margolis, H., Fang, J., Barr, A., Chen, A., Grelle, A., Hollinger, D.Y., Laurila, T., Lindroth, A., Richardson, A.D., Vesala, T. Net carbon dioxide losses of northern ecosystems in response to autumn warming (2008) *Nature*, 451 (7174), pp. 49-52. DOI: 10.1038/nature06444
  125. Piao, S., Friedlingstein, P., Ciais, P., De Noblet-Ducoudré, N., Labat, D., Zaehle, S. Changes in climate and land use have a larger direct impact than rising CO<sub>2</sub> on global river runoff trends (2007) *Proceedings of the National Academy of Sciences of the United States of America*, 104 (39), pp. 15242-15247. DOI: 10.1073/pnas.0707213104
  126. Piao, S., Friedlingstein, P., Ciais, P., Viovy, N., Demarty, J. Growing season extension and its impact on terrestrial carbon cycle in the Northern Hemisphere over the past 2 decades (2007) *Global Biogeochemical Cycles*, 21 (3), art. no. GB3018, . DOI: 10.1029/2006GB002888
  127. Davin, E.L., de Noblet-Ducoudré, N., Friedlingstein, P. Impact of land cover change on surface climate: Relevance of the radiative forcing concept (2007) *Geophysical Research Letters*, 34 (13), art. no. L13702, . DOI: 10.1029/2007GL029678
  128. Matthews, H.D., Eby, M., Ewen, T., Friedlingstein, P., Hawkins, B.J. What determines the magnitude of carbon cycle-climate feedbacks? (2007) *Global Biogeochemical Cycles*, 21 (2), art. no. GB2012, . DOI: 10.1029/2006GB002733

129. Gullison, R.E., Frumhoff, P.C., Canadell, J.G., Field, C.B., Nepstad, D.C., Hayhoe, K., Avissar, R., Curran, L.M., Friedlingstein, P., Jones, C.D., Nobre, C. Tropical forests and climate policy (2007) *Science*, 316 (5827), pp. 985-986. DOI: 10.1126/science.1136163
130. Hibbard, K.A., Meehl, G.A., Cox, P.M., Friedlingstein, P. A strategy for climate change stabilization experiments (2007) *Eos*, 88 (20), pp. 217+219+221.
131. Piao, S., Friedlingstein, P., Ciais, P., Zhou, L., Chen, A. Effect of climate and CO<sub>2</sub> changes on the greening of the Northern Hemisphere over the past two decades (2006) *Geophysical Research Letters*, 33 (23), art. no. L23402, . DOI: 10.1029/2006GL028205
132. Hourdin, F., Musat, I., Bony, S., Braconnot, P., Codron, F., Dufresne, J.-L., Fairhead, L., Filiberti, M.-A., Friedlingstein, P., Grandpeix, J.-Y., Krinner, G., LeVan, P., Li, Z.-X., Lott, F. The LMDZ4 general circulation model: Climate performance and sensitivity to parametrized physics with emphasis on tropical convection (2006) *Climate Dynamics*, 27 (7-8), pp. 787-813. DOI: 10.1007/s00382-006-0158-0
133. Friedlingstein, P., Cox, P., Betts, R., Bopp, L., von Bloh, W., Brovkin, V., Cadule, P., Doney, S., Eby, M., Fung, I., Bala, G., John, J., Jones, C., Joos, F., Kato, T., Kawamiya, M., Knorr, W., Lindsay, K., Matthews, H.D., Raddatz, T., Rayner, P., Reick, C., Roeckner, E., Schnitzler, K.-G., Schnur, R., Strassmann, K., Weaver, A.J., Yoshikawa, C., Zeng, N. Climate-carbon cycle feedback analysis: Results from the C4MIP model intercomparison (2006) *Journal of Climate*, 19 (14), pp. 3337-3353. DOI: 10.1175/JCLI3800.1
134. Morales, P., Sykes, M.T., Prentice, I.C., Smith, P., Smith, B., Bugmann, H., Zierl, B., Friedlingstein, P., Viovy, N., Sabaté, S., Sánchez, A., Pla, E., Gracia, C.A., Sitch, S., Arneth, A., Ogee, J. Comparing and evaluating process-based ecosystem model predictions of carbon and water fluxes in major European forest biomes (2005) *Global Change Biology*, 11 (12), pp. 2211-2233. DOI: 10.1111/j.1365-2486.2005.01036.x
135. Ciais, Ph., Reichstein, M., Viovy, N., Granier, A., Ogée, J., Allard, V., Aubinet, M., Buchmann, N., Bernhofer, Chr., Carrara, A., Chevallier, F., De Noblet, N., Friend, A.D., Friedlingstein, P., Grünwald, T., Heinesch, B., Keronen, P., Knohl, A., Krinner, G., Loustau, D., Manca, G., Matteucci, G., Miglietta, F., Ourcival, J.M., Papale, D., Pilegaard, K., Rambal, S., Seufert, G., Soussana, J.F., Sanz, M.J., Schulze, E.D., Vesala, T., Valentini, R. Europe-wide reduction in primary productivity caused by the heat and drought in 2003 (2005) *Nature*, 437 (7058), pp. 529-533. DOI: 10.1038/nature03972
136. Friedlingstein, P., Solomon, S. Contributions of past and present human generations to committed warming caused by carbon dioxide (2005) *Proceedings of the National Academy of Sciences of the United States of America*, 102 (31), pp. 10832-10836. DOI: 10.1073/pnas.0504755102
137. Berthelot, M., Friedlingstein, P., Ciais, P., Dufresne, J.-L., Monfray, P. How uncertainties in future climate change predictions translate into future terrestrial carbon fluxes (2005) *Global Change Biology*, 11 (6), pp. 959-970. DOI: 10.1111/j.1365-2486.2005.00957.x
138. Peylin, P., Bousquet, P., Le Quééré, C., Sitch, S., Friedlingstein, P., McKinley, G., Gruber, N., Rayner, P., Ciais, P. Multiple constraints on regional CO<sub>2</sub> flux variations over land and oceans (2005) *Global Biogeochemical Cycles*, 19 (1), pp. 1-21. DOI: 10.1029/2003GB002214
139. Krinner, G., Viovy, N., de Noblet-Ducoudré, N., Ogée, J., Polcher, J., Friedlingstein, P., Ciais, P., Sitch, S., Prentice, I.C. A dynamic global vegetation model for studies of the coupled atmosphere-biosphere system (2005) *Global Biogeochemical Cycles*, 19 (1), pp. 1-33. DOI: 10.1029/2003GB002199
140. Hoffmann, G., Cuntz, M., Weber, C., Ciais, P., Friedlingstein, P., Heimann, M., Jouzel, J., Kaduk, J., Maier-Reimer, E., Seibt, U., Six, K. A model of the Earth's Dole effect (2004) *Global Biogeochemical Cycles*, 18 (1), pp. GB1008 1-15.
141. Friedlingstein, P., Dufresne, J.-L., Cox, P.M., Rayner, P. How positive is the feedback between climate change and the carbon cycle? (2003) *Tellus, Series B: Chemical and Physical Meteorology*, 55 (2), pp. 692-700. DOI: 10.1034/j.1600-0889.2003.01461.x
142. Berthelot, M., Friedlingstein, P., Ciais, P., Monfray, P., Dufresne, J.L., Le Treut, H., Fairhead, L. Global response of the terrestrial biosphere to CO<sub>2</sub> and climate change using a coupled climate-carbon cycle model (2002) *Global Biogeochemical Cycles*, 16 (4), pp. 31-1.
143. Lucht, W., Prentice, I.C., Myneni, R.B., Sitch, S., Friedlingstein, P., Cramer, W., Bousquet, P., Buermann, W., Smith, B. Climatic control of the high-latitude vegetation greening trend and Pinatubo effect (2002) *Science*, 296 (5573), pp. 1687-1689. DOI: 10.1126/science.1071828
144. Dufresne, J.-L., Fairhead, L., Le Treut, H., Berthelot, M., Bopp, L., Ciais, P., Friedlingstein, P., Monfray, P. On the magnitude of positive feedback between future climate change and the carbon cycle (2002) *Geophysical Research Letters*, 29 (10), pp. 43-1 - 43-4.
145. Schimel, D.S., House, J.I., Hibbard, K.A., Bousquet, P., Ciais, P., Peylin, P., Braswell, B.H., Apps, M.J., Baker, D., Bondeau, A., Canadell, J., Churkina, G., Cramer, W., Denning, A.S., Field, C.B., Friedlingstein, P., Goodale, C., Heimann, M., Houghton, R.A., Melillo, J.M., Moore III, B., Murdiyarso, D., Noble, I., Pacala, S.W., Prentice, I.C., Raupach, M.R., Rayner, P.J., Scholes, R.J., Steffen, W.L., Wirth, C. Recent patterns and mechanisms of carbon exchange by terrestrial ecosystems (2001) *Nature*, 414 (6860), pp. 169-172. DOI: 10.1038/35102500

146. Friedlingstein, P., Bopp, L., Ciais, P., Dufresne, J.-L., Fairhead, L., LeTreut, H., Monfray, P., Orr, J. Positive feedback between future climate change and the carbon cycle (2001) *Geophysical Research Letters*, 28 (8), pp. 1543-1546. DOI: 10.1029/2000GL012015
147. Bousquet, P., Peylin, P., Ciais, P., Le Quere, C., Friedlingstein, P., Tans, P.P. Regional changes in carbon dioxide fluxes of land and oceans since 1980 (2000) *Science*, 290 (5495), pp. 1342-1346. DOI: 10.1126/science.290.5495.1342
148. Botta, A., Viovy, N., Ciais, P., Friedlingstein, P., Monfray, P. A global prognostic scheme of leaf onset using satellite data (2000) *Global Change Biology*, 6 (7), pp. 709-725. DOI: 10.1046/j.1365-2486.2000.00362.x
149. Jackson, R.B., Schenk, H.J., Jobbágy, E.G., Canadell, J., Colello, G.D., Dickinson, R.E., Field, C.B., Friedlingstein, P., Heimann, M., Hibbard, K., Kicklighter, D.W., Kleidon, A., Neilson, R.P., Parton, W.J., Sala, O.E., Sykes, M.T. Belowground consequences of vegetation change and their treatment in models (2000) *Ecological Applications*, 10 (2), pp. 470-483.
150. Friedlingstein, P., Joel, G., Field, C.B., Fung, I.Y. Toward an allocation scheme for global terrestrial carbon models (1999) *Global Change Biology*, 5 (7), pp. 755-770. DOI: 10.1046/j.1365-2486.1999.00269.x
151. Ciais, P., Friedlingstein, P., Schimel, D.S., Tans, P.P. A global calculation of the  $\delta^{13}\text{C}$  of soil respired carbon: Implications for the biospheric uptake of anthropogenic  $\text{CO}_2$  (1999) *Global Biogeochemical Cycles*, 13 (2), pp. 519-530. DOI: 10.1029/98GB00072
152. Denning, A.S., Takahashi, T., Friedlingstein, P. Can a strong atmospheric  $\text{CO}_2$  rectifier effect be reconciled with a 'reasonable' carbon budget? (1999) *Tellus, Series B: Chemical and Physical Meteorology*, 51 (2), pp. 249-253.
153. Denning, A.S., Holzer, M., Gurney, K.R., Heimann, M., Law, R.M., Rayner, P.J., Fung, I.Y., Fan, S.-M., Taguchi, S., Friedlingstein, P., Balkanski, Y., Taylor, J., Maiss, M., Levin, I. Three-dimensional transport and concentration of  $\text{SF}_6$  a model intercomparison study (TransCom 2) (1999) *Tellus, Series B: Chemical and Physical Meteorology*, 51 (2), pp. 266-297.
154. Erickson III, D.J., Rasch, P.J., Tans, P.P., Friedlingstein, P., Ciais, P., Maier-Reimer, E., Six, K., Fischer, C.A., Walters, S. The seasonal cycle of atmospheric  $\text{CO}_2$ : A study based on the NCAR community climate model (CCM2) (1996) *Journal of Geophysical Research Atmospheres*, 101 (10), pp. 15079-15097.
155. Friedlingstein, P., Prentice, K.C., Fung, I.Y., John, J.G., Brasseur, G.P. Carbon-biosphere-climate interactions in the last glacial maximum climate (1995) *Journal of Geophysical Research*, 100 (D4), pp. 7203-7221.
156. Friedlingstein, P., Fung, I., Holland, E., John, J., Brasseur, G., Erickson, D., Schimel, D. On the contribution of  $\text{CO}_2$  fertilization to the missing biospheric sink (1995) *Global Biogeochemical Cycles*, 9 (4), pp. 541-556. DOI: 10.1029/95GB02381
157. Tie, X.X., Brasseur, G., Lin, X., Friedlingstein, P., Granier, C., Rasch, P. The impact of high altitude aircraft on the ozone layer in the stratosphere (1994) *Journal of Atmospheric Chemistry*, 18 (2), pp. 103-128. DOI: 10.1007/BF00696810
158. Friedlingstein, P., Müller, J.-F., Brasseur, G.P. Sensitivity of the terrestrial biosphere to climatic changes: Impact on the carbon cycle (1994) *Environmental Pollution*, 83 (1-2), pp. 143-147. DOI: 10.1016/0269-7491(94)90032-9
159. Friedlingstein, P., Delire, C., Müller, J.F., Gérard, J.C. The climate induced variation of the continental biosphere: A model simulation of the Last Glacial Maximum (1992) *Geophysical Research Letters*, 19 (9), pp. 897-900. DOI: 10.1029/92GL00546

**B) Contribution to Intergovernmental Panel on Climate Change (IPCC)  
5<sup>th</sup> Assessment Report**

- 1) Pachauri, Rajendra K., M. R. Allen, V. R. Barros, J. Broome, W. Cramer, R. Christ, J. A. Church et al. "Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change." (2014): 151.
- 2) IPCC, 2013: Summary for Policymakers. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S. K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
- 3) Stocker, T.F., D. Qin, G.-K. Plattner, L.V. Alexander, S.K. Allen, N.L. Bindoff, F.-M. Bréon, J.A. Church, U. Cubasch, S. Emori, P. Forster, P. Friedlingstein, N. Gillett, J.M. Gregory, D.L. Hartmann, E. Jansen, B. Kirtman, R. Knutti, K. Krishna Kumar, P. Lemke, J. Marotzke, V. Masson-Delmotte, G.A. Meehl, I.I. Mokhov, S. Piao, V. Ramaswamy, D. Randall, M. Rhein, M. Rojas, C. Sabine, D. Shindell, L.D. Talley, D.G. Vaughan and S.-P. Xie, 2013: Technical Summary. In: *Climate Change 2013: The Physical Science Basis. Contribution*

of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

- 4) Collins, M., R. Knutti, J. Arblaster, J.-L. Dufresne, T. Fichet, P. Friedlingstein, X. Gao, W.J. Gutowski, T. Johns, G. Krinner, M. Shongwe, C. Tebaldi, A.J. Weaver and M. Wehner, 2013: Long-term Climate Change: Projections, Commitments and Irreversibility. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

#### **4th Assessment Report**

- 5) Richard B. Alley, Terje Berntsen, Nathaniel L. Bindoff, Zhenlin Chen, Amnat Chidthaisong, P. Friedlingstein, Jonathan M. Gregory, Gabriele C. Hegerl, Martin Heimann, Bruce Hewitson, Brian J. Hoskins, Fortunat Joos, Jean Jouzel, Vladimir Kattsov, Ulrike Lohmann, Martin Manning, Taroh Matsuno, Mario Molina, Neville Nicholls, Jonathan Overpeck, Dahe Qin, Graciela Raga, Venkatachalam Ramaswamy, Jiawen Ren, Matilde Rusticucci, Susan Solomon, Richard Somerville, Thomas F. Stocker, Peter A. Stott, Ronald J. Stouffer, Penny Whetton, Richard A. Wood, David Wratt, IPCC, 2007: Summary for Policymakers. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
- 6) Meehl, G.A., T.F. Stocker, W. Collins, P. Friedlingstein, A. Gaye, J. Gregory, A. Kitoh, R. Knutti, J. Murphy, A. Noda, S. Raper, I. Watterson, A. Weaver and Z.-C. Zhao, 2007: Global Climate Projections, *Climate Change 2007, The physical science basis, Contribution of the Working Group I to the Fourth Assessment Report of IPCC*, Cambridge University Press, United Kingdom and New York, NY, USA.

#### **3rd Assessment Report**

- 7) Prentice, I.C, G. Farquhar, M.Fasham, M. Goulden, M. Heimann, V. Jaramillo, H. Kheshgi, C. LeQuere, R. Scholes, D. Wallace, D. Archer, M. Ashmore, O. Aumont, D. Baker, D. Battle, M. Bender, L. Bopp, P. Bousquet, K. Caldeira, P. Ciais, P. Cox, W. Cramer, F. Dentener, I. Enting, C. Field, P. Friedlingstein, E. Holland, R. Houghton, J. House, A. Ishida, A. Jain, I. Janssens, F. Joos, T. Kaminski, C. Keeling, R. Keeling, D. Kicklighter, K. Kohfeld, W. Knorr, R. Law, T. Lenton, K. Lindsay, E. Maier-Reimer, A. Manning, R. Matear, A. MCGuire, J. Melillo, R. Meyer, M. Mund, J. Orr, S. Piper, K. Plattner, P. Rayner, S. Sitch, R. Slater, S. Taguchi, P. Tans, H. Tian, M. Weirig, T. Whorf, A. Yool, 2001, The carbon cycle and atmospheric carbon dioxide, *Climate Change 2001, The scientific basis, Contribution of the Working Group I to the Third Assessment Report of IPCC*, Cambridge University Press, United Kingdom and New York, NY, USA.
- 8) Schimel, D., I. Enting, M. Heimann, T. Wigley, D. Raynaud, D. Alves, and U. Siegenthaler, Contributors : S. Brown, W. Emanuel, M. Fasham, C. Field, P. Friedlingstein, R. Gifford, R. Houghton, A. Janetos, S. Kempe, R. Leemans, E. Maier-Reimer, G. Marland, R. McMurtrie, J. Melillo, J.-F. Minster, P. Monfray, M. Mousseau, D. Ojima, D. Peel, D. Skole, E. Sulzman, P. Tans, I. Totterdell, P. Vitousek, 1995, CO<sub>2</sub> and the Carbon Cycle, In: *Intergovernmental Panel on Climate Change, Climate Change 1994, Radiative Forcing of Climate Change and an Evaluation of the IPCC IS92 Emission Scenarios*, edited by J. Houghton et al., Cambridge University Press, United Kingdom and New York, NY, USA.

#### **C) Book Chapters**

- 1) Solomon S., RT. Pierrehumbert, D Matthews, JS. Daniel, and P Friedlingstein, 2013, Atmospheric Composition, Irreversible Climate Change, and Mitigation Policy, in G.R. Asrar and J.W. Hurrell (eds.), *Climate Science for Serving Society: 415 Research, Modeling and Prediction Priorities*, DOI 10.1007/978-94-007-6692-1\_15, Springer Science+Business Media Dordrecht.
- 2) Bony S. B Stevens, IH. Held, JF. Mitchell, J-L Dufresne, KA. Emanuel, P Friedlingstein, S Griffies, and C Senior, 2013, Carbon Dioxide and Climate: Perspectives on a Scientific Assessment, in G.R. Asrar and J.W. Hurrell (eds.), *Climate Science for Serving Society: 415 Research, Modeling and Prediction Priorities*, DOI 10.1007/978-94-007-6692-1\_15, Springer Science+Business Media Dordrecht.
- 3) van den Hurk B., P Braconnot, V Eyring, P Friedlingstein, P Gleckler, R Knutti, and J Teixeira, 2013, Assessing the Reliability of Climate Models, CMIP5, in G.R. Asrar and J.W. Hurrell (eds.), *Climate Science for Serving Society: 415 Research, Modeling and Prediction Priorities*, DOI 10.1007/978-94-007-6692-1\_15, Springer Science+Business Media Dordrecht.
- 4) Chappellaz, J., Legrand, M., Delmas, R., Bopp, L., Friedlingstein, P. Atmospheric Composition and Biogeochemical Cycles over the Last Million Years (2013) *Treatise on Geochemistry: Second Edition*, 6, pp. 305-326. DOI: 10.1016/B978-0-08-095975-7.01316-4

- 5) Friedlingstein, P., A. Gallego-Sala, E.M. Blyth, F.E. Hewer, S.I. Seneviratne, A. Spessa, P. Suntharalingam, and M. Scholze, 2012, The Earth system feedbacks that matter for contemporary climate, In *Understanding the Earth System*, S.E. Cornell et al. (Eds), Cambridge Univ. Press.
- 6) Eyring, V., P. Friedlingstein, H. Hundrieser, T.G. Shepherd, and D.W. Waugh, 2012, How good are chemistry climate models, In *Atmospheric Physics, Background - Methods - Trends*, U. Schumann (Eds), Springer
- 7) Friedlingstein, P., 2004, Climate - carbon cycle interactions, In *Towards Stabilization of Atmospheric CO<sub>2</sub>*, C. Field and M. Raupach (Eds.), SCOPE/GCP rapid assessment of the carbon cycle, Island Press.
- 8) Gruber, N., Friedlingstein, P., Field, C., Valentini, R., Heimann, M., Richey, J., Romero-Lankao, P., Schulze, E.D., and Chen, A., 2004, The vulnerability of the carbon cycle in the 21st century: An assessment of carbon-climate-human interactions, In *Towards Stabilization of Atmospheric CO<sub>2</sub>*, C. Field and M. Raupach (Eds.), SCOPE/GCP rapid assessment of the carbon cycle.
- 9) Ciais, P., P. Friedlingstein, A. Friend, and D. Schimel, 2001, Terrestrial Primary Production: Integrating global models, in *Net Primary Production: past, present and future*, edited by J. Roy and H. Mooney.
- 10) Friedlingstein, P., 2000, Climate System and carbon cycle feedback, in Ehlers, E. & Krafft, T. (Ed.) "Understanding the Earth System: Compartments, Processes and Interactions", Springer Verlag Heidelberg.

#### D) Other articles

- 1) Friedlingstein, P. and C.D. Jones, Climate-carbon interactions in the CMIP5 Earth System models, *CLIVAR Exchanges*, WCRP CMIP5 Special Issue, **16**,56, 27-29, 2011.
- 2) Joussaume, S., S. Bony, P. Braconnot, J.-L. Dufresne, P. Friedlingstein, S. Planton and L. Terray, *Météo incertaine pour 2050*, La Recherche, Objectif Terre 2050, Hors Série, n° 415, 2008.
- 3) Friedlingstein, P., *Le réchauffement climatique*, L'ennemi climatique n°1 Sciences et Avenir, Hors Série, n°150, 2007.
- 4) Friedlingstein, P. et J.-L. Dufresne, 2005, Cycle du carbone et climat: une accélération du changement climatique ?, *Lettre du MURS*, 29.
- 5) Friedlingstein, P., L. Boop et P. Cadule, *Changement climatique et cycle du carbone*, 2007, *La Météorologie*, 58.
- 6) Dufresne, J.-L., Salas y Melia, D., Denvil, S., Tyteca, S., Arzel, O., Bony, S., Braconnot, P., Brockmann, P., Cadule, P., Caubel, A., Chauvin, F., Déqué, M., Douville, H., Fairhead, L., Fichet, T., Foujols, M.-A., Friedlingstein, P., Grandpeix, J.-Y., Guérémy, J.-F., Hourdin, F., Idelkadi, A., Krinner, G., Lévy, C., Madec, G., Marquet, P., Marti, O., Musat, L., Planton, S., Royer, J.-F., Swingedouw, D., Voltaire, A., 2007, Simulation du climat récent et futur par les modèles du CNRM et de l'IPSL, *La Météorologie*, 55, 45-59.
- 7) Marti, O., P. Braconnot, J. Bellier, R. Benshila, S. Bony, P. Brockmann, P. Cadule, A. Caubel, S. Denvil, J. L. Dufresne, L. Fairhead, M. A. Filiberti, M.-A. Foujols, T. Fichet, P. Friedlingstein, H. Goosse, J. Y. Grandpeix, F. Hourdin, G. Krinner, C. Lévy, G. Madec, I. Musat, N. deNoblet, J. Polcher, and C. Talandier, 2005, The new IPSL climate system model: IPSL-CM4. *Note du Pôle de Modélisation*, 26, ISSN 1288-1619.
- 8) Braconnot, P., P. Friedlingstein, J.-L. Dufresne, 2003, Le climat de demain: inquiétudes face à la teneur atmosphérique en gaz à effet de serre, *Flux*, 223, 49-55, ISSN 0766-3536
- 9) Cox, P., P. Friedlingstein and P. Rayner, 2002, Modelling climate - carbon cycle feedbacks: a cross disciplinary collaboration priority, *IGBP Global Change Newsletter*, 49.
- 10) Fung, I., P. Rayner, and P. Friedlingstein, 2000, Full-Form Earth System Models: Coupled Carbon-Climate Interaction Experiment (the Flying Leap ), *IGBP Global Change Newsletter*, 41.
- 11) Dufresne J.L., Friedlingstein P., 2000. Les rétroactions "climat-carbone" associées aux rejets anthropiques de CO<sub>2</sub> à l'aide du modèle couplé de l'IPSL: un possible effet amplificateur? *Lettre PIGB-PMRC-France* 11, 32-40 (III-IV)
- 12) Friedlingstein P., Bopp P., Ciais P., Dufresne J.L., Fairhead L., Le Treut H., Monfray P., Orr J., 2000. Positive feedback of the carbon cycle on future climate change. *Notes du Pôle de Modélisation*, Institut Pierre Simon Laplace 19, 16 p.
- 13) Friedlingstein, P., G. Brasseur, and I. Fung, 1994, Biospheric carbon cycle modelling, In: *IGBP and Global change related research in Belgium II*, edited by O. Vanderborght, Royal Belgian Academies of Sciences.
- 14) Enting, I.G., T.M.L. Wigley, and M. Heimann, Model contributors : J. Taylor, J. Lloyd and G. Farquhar; W. Emanuel; B. Cohen; I. Enting and K. Lassey; P. Friedlingstein; A. Keller and R. Goldstein; M. Heimann, J. Kaduck, K. Kurz and E. Maier-Reimer; F. Joos and U. Siegenthaler; A. Jain and D. Wuebbles; B. Braswell and B. Moore; J. Orr and P. Monfray; T.-H. Peng; C. Le Quéré, J. Sarmiento and S. Pacala; J. Alcamo and M. Krol; L. Harvey; J. Viecelli; T. Wigley; O. Zakharova and K. Selyakov, 1994, Future Emissions and Concentrations of Carbon Dioxide: Key Ocean/Atmosphere/Land Analyses, *CSIRO Aust. Div. Atm. Res.*, 31, 1-118.