Charles Dunbar Koven

Contact Information

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Research Interests

I study global climate change and the role of terrestrial ecosystems in governing climate feedbacks within the Earth system, with a focus on understanding the carbon dynamics of permafrost-affected and tropical forest ecosystems.

Education

University of California, Berkeley, CA

Ph.D., Environmental Science, Policy, and Management, December 2006

Yale University, New Haven, CT

B.S., Geology, May 1998

Honors and Awards

LBNL: Director's Award for Exceptional Early Scientific Career Achievement, 2014
NASA: Earth System Science Fellowship 2004-2006
Yale University: Penfield prize for mineralogy, May 1998

Publications

2015

Koven, C. D., Lawrence, D. M., Riley, W. J. (2015) Permafrost carbon-climate feedback is sensitive to deep soil carbon decomposability but not deep soil nitrogen dynamics. *Proceedings of the National Academies of Science, 112*, 12, 3752-3757, doi:10.1073/pnas.1415123112

Koven, C. D., J. Chambers, R. Knox, R. Negron-Juarez, W. J. Riley, V. Arora, V. Brovkin, P. Friedlingstein, C. Jones (2015). Controls on terrestrial carbon feedbacks by productivity versus turnover in the CMIP5 Earth System Models. *Biogeosciences 12*, 17, 5211-5228 doi:10.5194/bg-12-5211-2015

Koven, C. D., E. A. G. Schuur, C. Schädel, T. Bohn, E. J. Burke, G. Chen, X. Chen, P. Ciais, G. Grosse, J. W. Harden, D. J. Hayes, G. Hugelius, E. E. Jafarov, G. Krinner, P. Kuhry, D. M. Lawrence, A. H. MacDougall, S. S. Marchenko, A. D. McGuire, S. M. Natali, D. J. Nicolsky, D. Olefeldt, S. Peng, V. E. Romanovsky, K. M. Schaefer, J. Strauss, C. Treat, M. Turetsky (2015). A simplified, data-constrained approach to estimate the permafrost carbon-climate feedback. *Phil. Trans. Roy. Soc. A*, in press doi:10.1098/rsta.2014.0423

Schuur, E.A.G., A.D. McGuire, C. Schädel, G. Grosse, J.W. Harden, D.J. Hayes, G. Hugelius, C. D. **Koven**, P. Kuhry, D.M. Lawrence, S.M. Natali, D. Olefeldt, V.E. Romanovsky, K. Schaefer, M. Turetsky, C. Treat, J.E. Vonk. (2015) Climate Change and the Permafrost Carbon Feedback. *Nature, 520*, 171-179, doi:10.1038/nature14338

Lawrence, D. M., C. D. **Koven**, S. C. Swenson, W. J. RIley, and A. G. Slater (2015) Permafrost thaw and resulting soil moisture changes regulate projected high-latitude CO2 and CH4 emissions. *Environmental Research Letters 10*, 094011, doi:10.1088/1748-9326/10/9/094011

Georgiou K., C D **Koven**, W J Riley, M S Torn (2015) Towards improved model structures for analyzing priming: potential pitfalls of using bulk turnover time. *Global Change Biology*, in press, doi:10.1111/gcb.13039

Negrón-Juárez, R. I., C D **Koven**, W J Riley, R G Knox, J Q Chambers (2015) Observed allocations of productivity and biomass, and turnover times in tropical forests are not accurately represented in CMIP5 Earth system models, *Environmental Research Letters, 10*, 6, 064017, doi:10.1088/1748-9326/10/6/064017

Negrón-Juárez, R. I., W. J. Riley, C. D. **Koven**, R. G. Knox, P. G. Taylor, J. Q. Chambers (2015) The rainfall sensitivity of tropical net primary production in CMIP5 20th and 21st century simulations, *Journal of Climate*, in press, doi:10.1175/JCLI-D-14-00675.1

Fisher, R. A., Muszala, S., Verteinstein, M., Lawrence, P., Xu, C., McDowell, N. G., Knox, R. G., **Koven**, C., Holm, J., Rogers, B. M., Spessa, A., Lawrence, D., and Bonan, G.: Taking off the training wheels: the properties of a dynamic vegetation model without climate envelopes, *Geosci. Model Dev.*, 8, 3593-3619, doi:10.5194/gmd-8-3593-2015

McDowell, N. G. Williams, A. P., Xu, C., Pockman, W. T., Dickman, L. T., Sevanto, S., Pangle, R., Limousin, J., Plaut, J., Mackay, D. S., Ogee, J., Domec, J. C., Allen, C. D., Fisher, R. A., Jiang, X., Muss, J. D., Breshears, D. D., Rauscher, S. A., **Koven**, C. Multi-scale predictions of massive conifer mortality due to chronic temperature rise, *Nature Climate Change*, doi:10.1038/NCLIMATE2873

Osborne, J. M., Lambert, F. H., Harper, A. B., Groenendijk, M., Sitch, S., **Koven**, C. D., Poulter, B., Pugh, T. A. M., Stocker, B. D., Wiltshire, A., Zaehle, S. (2015) Reconciling precipitation with runoff: observed hydrological change in the mid-latitudes, *Journal of Hydrometeorology*, in press, doi:10.1175/JHM-D-15-0055.1

Rawlins, M. A., A. D. McGuire, J. K. Kimball, P. Dass, D. Lawrence, E. Burke, X. Chen, C. Delire, C. **Koven**, A. MacDougall, S. Peng, A. Rinke, K. Saito, W. Zhang, R. Alkama, T. J. Bohn, P. Ciais, B. Decharme, I. Gouttevin, T. Hajima, D. Ji, G. Krinner, D. P. Lettenmaier, P. Miller, J. C. Moore, B. Smith, and T. Sueyoshi. Assessment of model estimates of land–atmosphere CO2 exchange across Northern Eurasia. *Biogeosciences*, 14, 4385-4405, 2015 doi:10.5194/bg-12-4385-2015.

Luo, Y., A. Ahlström, S. D. Allison, N. H. Batjes, V. Brovkin, N. Carvalhais, A. Chappell, P. Ciais, E. A. Davidson, A. Finzi, K. Georgiou, B. Guenet, O. Hararuk, J. Harden, Y. He, F. Hopkins, L. Jiang, **C. Koven**, R. Jackson, C. Jones, M. Lara, J. Liang, A . McGuire,.W. Parton, C.Peng, J. Randerson, A. Salazar, C. Sierra, M. Smith, H. Tian, K. Todd-Brown, M. Torn, K. van Groenigen, Y. Wang, T. West, Y. Wei, W. Wieder, J. Xia, X. Xu, X. Xu, T. Zhou (2015), Towards More Realistic Projections of Soil Carbon Dynamics by Earth System Models, Global Biogeochem. Cycles, 29, doi:10.1002/2015GB005239.

Le Quéré, C., Moriarty, R., Andrew, R. M., Peters, G. P., Ciais, P., Friedlingstein, P., Jones, S. D., Sitch, S., Tans, P., Arneth, 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., Viovy, N., Wang, Y.-P., Wanninkhof, R., Wiltshire, A., and Zeng, N. (2015): Global carbon budget 2014, *Earth Syst. Sci. Data*, 7, 47-85, doi:10.5194/essd-7-47-2015

2014 Hugelius, G., Strauss, J., Zubrzycki, S., Harden, J. W., Schuur, E. A. G., Ping, C.-L., Schirrmeister,

L., Grosse, G., Michaelson, G. J., **Koven**, C. D., O'Donnell, J. A., Elberling, B., Mishra, U., Camill, P., Yu, Z., Palmtag, J., and Kuhry, P. (2014): Estimated stocks of circumpolar permafrost carbon with quantified uncertainty ranges and identified data gaps, *Biogeosciences, 11*, 6573-6593, doi:10.5194/bg-11-6573-2014

Fisher, J. B., M. Sikka, W. C. Oechel, D. N. Huntzinger, J. R. Melton, C. D. **Koven**, A. Ahlström, M. A. Arain, I. Baker, J. M. Chen, P. Ciais, C. Davidson, M. Dietze, B. El-Masri, D. Hayes, C. Huntingford, A. K. Jain, P. E. Levy, M. R. Lomas, B. Poulter, D. Price, A. K. Sahoo, K. Schaefer, H. Tian, E. Tomelleri, H. Verbeeck, N. Viovy, R. Wania, N. Zeng, and C. E. Miller (2014) Carbon cycle uncertainty in the Alaskan Arctic, *Biogeosciences, 11*, 4271-4288, doi:10.5194/bg-11-4271-2014

Le Quéré, C., Peters, G. P., Andres, R. J., Andrew, R. M., Boden, T., Ciais, P., Friedlingstein, P., Houghton, R. A., Marland, G., Moriarty, R., Sitch, S., Tans, P., Arneth, 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., 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., Tilbrook, B., van Heuven, S., Viovy, N., Wanninkhof, R., Wiltshire, A., Zaehle, S., and Yue, C. (2014) Global carbon budget 2013, *Earth Syst. Sci. Data., 6*, 235-263, doi:10.5194/essd-6-235-2014

2013

Koven, C. (2013) Boreal carbon loss due to poleward shift in low-carbon ecosystems. *Nature Geoscience, 6*, 452-456. doi:10.1038/ngeo1801

Koven, C., W. J. Riley, Z. M. Subin, J. Y. Tang, M. S. Torn, W. D. Collins, G. B. Bonan, D. M. Lawrence, and S. C. Swenson (2013) The effect of vertically-resolved soil biogeochemistry and alternate soil C and N models on C dynamics of CLM4. *Biogeosciences, 10*, 7109-7131, doi:10.5194/bg-10-7109-2013

Koven, C. D., Riley, W. J., and Stern, A. T. (2013) Analysis of permafrost thermal dynamics and response to climate change in the CMIP5 Earth System Models. *J. Climate*, doi:10.1175/JCLI-D-12-00228.1

Hugelius, G., Bockheim, J. G., Camill, P., Elberling, B., Grosse, G., Harden, J. W., Johnson, K., Jorgenson, T., **Koven**, C. D., Kuhry, P., Michaelson, G., Mishra, U., Palmtag, J., Ping, C.-L., O'Donnell, J., Schirrmeister, L., Schuur, E. A. G., Sheng, Y., Smith, L. C., Strauss, J., and Yu, Z. (2013): A new data set for estimating organic carbon storage to 3 m depth in soils of the northern circumpolar permafrost region, *Earth Syst. Sci. Data, 5*, 393-402, doi:10.5194/essd-5-393-2013

Oleson KW, Lawrence DM, Bonan GB, Drewniak B, Huang M, **Koven** CD, Levis S, Li F, Riley WJ, Subin ZM, Swenson SC, Thornton PE, Bozbiyik A, Fisher R, Heald CL, Kluzek E, Lamarque J, Lawrence PJ, Leung LR, Lipscomb W, Muszala S, Ricciuto DM, Sacks W, Tang J, Yang Z. (2013) Technical Description of version 4.5 of the Community Land Model (CLM). *NCAR Technical Note NCAR/TN-503+STR* doi:10.5065/D6RR1W7M

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Mishra U, Jastrow JD, Matamala R, Hugelius G, **Koven** CD, Harden JW, Ping CL, Michaelson GJ, Fan Z, Miller RM, McGuire AD, Tarnocai C, Kuhry P, Riley WJ, Schaefer K, Schuur EAG, Jorgenson MT, Hinzman LD. (2013) Empirical estimates to reduce modeling uncertainties of soil organic carbon in permafrost regions: a review of recent progress and remaining challenges. *Environmental Research Letters. 8*, 035020 doi:10.1088/1748-9326/8/3/035020

Tang, J., Riley, W. J., **Koven**, C. D., and Subin, Z. M. (2013) CLM4-BeTR, a generic biogeochemical transport and reaction module for CLM4: model development, evaluation, and application. *Geosci. Model Dev.*, 6, 127-140, doi:10.5194/gmd-6-127-2013

Schuur EAG, Abbott BW, et al.. (2013) Expert assessment of vulnerability of permafrost carbon to climate change *Climatic Change*, 119(2), 359-374, doi:10.1007/s10584-013-0730-7

2012

Harden, JW, **Koven**, C, Ping C, Hugelius, G, McGuire, AD, Camill, P, Jorgenson, T, Kuhry, P, Michaelson, G, O'Donnell, JA, Schuur, EAG, Tarnocai, C, Johnson, K, Grosse, G, (2012) Field Information Links Permafrost Carbon to Physical Vulnerabilities of Thawing. *Geophys. Res. Lett., 39*, L15704 doi:10.1029/2012GL051958

Ciais P, Tagliabue A, Cuntz M, Bopp L, Scholze M, Hoffmann G, Lourantou A, Harrisson SH, Prentice IC, Kelley, DI, **Koven** C, Piao SL (2012) Large inert carbon pool in the terrestrial biosphere during the Last Glacial Maximum *Nature Geoscience 5*, 74–79 doi:10.1038/ngeo1324

Subin, Z. M., C. **Koven**, W. Riley, M. Torn, D. Lawrence, S. Swenson, (2012) Effects of Soil Moisture on the Responses of Soil Temperatures to Climate Change in Cold Regions. *J. Climate*, doi:10.1175/JCLI-D-12-00305.1

Burke, E., Jones, C., **Koven**, C. (2012) Estimating the permafrost-carbon-climate response in the CMIP5 climate models using a simplified approach. *J. Climate*. doi:10.1175/JCLI-D-12-00550.1

Gouttevin I., Menegoz M., Dominé F, Krinner G, **Koven** C, Ciais P, Tarnocai C, Boike J. (2012) How the insulating properties of snow affect soil carbon distribution in the continental pan-Arctic area *J. Geophys. Res. 06*, 11, G02020 doi:10.1029/2011JG001916

Ringeval B, Decharme B, Piao SL, Ciais P, Papa F, de Noblet-Ducoudré N, Prigent C, Friedlingstein P, Gouttevin I, **Koven** C, Ducharne A., (2012) Modelling sub-grid wetland in the ORCHIDEE global land surface model: evaluation against river discharges and remotely sensed data *Geosci. Model Dev.*, 5(4):941–962, doi:10.5194/gmd-5-941-2012

McGuire AD, Christensen TR, Hayes D, Heroult A, Euskirchen E, Kimball JS, **Koven** C, Lafleur P, Miller PA, Oechel W, Peylin P, Williams M, Yi Y (2012) An assessment of the carbon balance of Arctic tundra: comparisons among observations, process models, and atmospheric inversions *Biogeosciences 9* (8):3185–3204 doi:10.5194/bg-9-3185-2012

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., and Zhou, X. H. (2012) A framework for benchmarking land models, *Biogeosciences*, 9, 3857-3874, doi:10.5194/bg-9-3857-2012

2011

Koven CD, Ringeval B, Friedlingstein P, Ciais P, Cadule P, Khvorostyanov D, Krinner G, Tarnocai C. (2011) Permafrost carbon-climate feedbacks accelerate global warming. *Proceedings of the National Academies of Science, 108* (36), 14769–14774. doi:10.1073/pnas.1103910108

Ringeval B, Friedlingstein P, **Koven** C, Ciais P, de Noblet-Ducoudré N, Decharme B, Cadule P. (2011) Climate-methane feedback from wetlands and its interaction with the climate-carbon cycle feedback. *Biogeosciences* 8:2137-2157. doi:10.5194/bg-8-2137-2011

Wang, X., S. Piao, P. Ciais, J. Li, P. Friedlingstein, C. **Koven**, A. Chen (2011) Spring temperature

change and its implication in the change of vegetation growth in North America from 1982 to 2006. *Proceedings of the National Acad. of Science, 108* (4), 1240-1245 doi:10.1073/pnas.1014425108

Wang T, Ciais P, Piao SL, Ottlé C, Brender P, Maignan F, Arain A, Cescatti A, Gianelle D, Gough C, Gu L, Lafleur P, Laurila T, Marcolla B, Margolis H, Montagnani L, Moors E, Saigusa N, Vesala T, Wohlfahrt G, **Koven** C, Black A, Dellwik E, Don A, Hollinger D, Knohl A, Monson R, Munger J, Suyker A, Varlagin A, Verma S (2011). Controls on winter ecosystem respiration in temperate and boreal ecosystems *Biogeosciences* 8:2009-2025. doi:10.5194/bg-8-2009-2011

2010 Eglin T, Ciais P, Piao S, Barre P, Bellason V, Cadule P, Chenu C, Gasser T, **Koven** CD, Reichstein M, Smith P (2010), Historical and future perspectives of global soil carbon response to climate and land-use changes. *Tellus B. 62* (5), 700-718. doi:10.1111/j.1600-0889.2010.00499.x

2009 **Koven**, C. D., P. Friedlingstein, P. Ciais, D. Khvorostyanov, G. Krinner, and C. Tarnocai, (2009) On the formation of high-latitude soil carbon stocks: The effects of cryoturbation and insulation by organic matter in a land surface model. *Geophys. Res. Lett., (36)*, L21501, doi:10.1029/2009gl040150

Goldstein, A. H., C. D. **Koven**, C. L. Heald, and I. Y. Fung, (2009) Biogenic Carbon and Anthropogenic Pollutants Combine to Form a Cooling Haze Over the Southeastern US. *Proceedings of the National Academies of Science, 106* (22), 8835-8840, doi:10.1073/pnas.0904128106

2008 **Koven**, C. D., and I. Fung, (2008) Identifying global dust source areas using high-resolution land surface form. *J. Geophys. Res., 113,* D22204, doi:10.1029/2008jd010195

2007 Buermann, W., B. R. Lintner, C. D. **Koven**, A. Angert, J. E. Pinzon, C. J. Tucker, and I. Fung, (2007) The changing carbon cycle at Mauna Loa Observatory. *Proceedings of the National Academies of Science, 104* (11), 4249-4254, doi:10.1073/pnas.0611224104

2006 **Koven**, C. D., and I. Fung (2006), Inferring dust composition from wavelength-dependent absorption in Aerosol Robotic Network (AERONET) data, *J. Geophys. Res., 111,* D14205, doi:10.1029/2005jd006678

Lintner, B. R., W. Buermann, C. D. **Koven**, and I. Y. Fung (2006), Seasonal circulation and Mauna Loa CO_2 variability, *J. Geophys. Res., 111,* D13104, doi:10.1029/2005jd006535

Perron, J. T., M. P. Lamb, C. D. **Koven**, I. Y. Fung, E. Yager, and M. Ádámkovics (2006), Valley formation and methane precipitation rates on Titan. *J. Geophysical Research, 111,* E11001, doi:10.1029/2005je002602

Discussion Papers in Open Review

Q. Zhu, W. J. Riley, J. Tang, and C. D. **Koven** (In review). Multiple soil nutrient competition between plants, microbes, and mineral surfaces: model development, parameterization, and example applications in several tropical forests. Biogeosciences Discuss., 12, 4057-4106, doi:10.5194/bgd-12-4057-2015.

Peng, S., Ciais, P., Krinner, G., Wang, T., Gouttevin, I., McGuire, A. D., Lawrence, D., Burke, E., Chen, X., Delire, C., **Koven**, C., MacDougall, A., Rinke, A., Saito, K., Zhang, W., Alkama, R., Bohn, T. J., Decharme, B., Hajima, T., Ji, D., Lettenmaier, D. P., Miller, P. A., Moore, J. C., Smith, B., and Sueyoshi, T. (2015) Simulated high-latitude soil thermal dynamics during the past four decades, The Cryosphere Discuss., 9, 2301-2337, doi:10.5194/tcd-9-2301-2015

Selected Presentations

C. D. Koven, B. Sulman, J. Harden, Y. He, D. Lawrence, L. Nave, J. O'Donnell, C. Treat, E. Kane. [Invited] Understanding global controls on soil carbon cycle profile predictions from vertically-resolved ESMs. AGU Fall Meeting, San Francisco, Dec. 2015.

C. D. Koven et al., PInc-PanTher: The PCN Incubation-Panarctic Thermal Scaling Approach. AGU Fall Meeting, San Francisco, Dec. 2015.

C. D. Koven et al., Productivity and turnover controls on terrestrial carbon feedbacks in the CMIP5 ESMs. ESA Annual Meeting, Baltimore, Aug. 2015.

C. D. Koven [Invited] Projecting the carbon-climate feedback from thawing permafrost. Our Common Future under Climate Change, Paris, July 2015

C. D. Koven, D. M. Lawrence, W. J. Riley, M. S. Torn [Invited] Zero-D to One-D: Challenges and implications of considering vertical soil C profiles in ESMs. AGU Fall Meeting, San Francisco, Dec. 2014.

C. D. Koven [Invited] Permafrost thaw and its role as a carbon cycle feedback to global warming. The Royal Society of London meeting: "Feedbacks on climate in the Earth system", London, Dec. 2014.

C. D. Koven. A climate-analog, transport approach to estimating terrestrial carbon-climate responses. AGU Fall Meeting, San Francisco, Dec. 2013.

C. D. Koven. Modeling terrestrial carbon-climate dynamics in the northern high latitudes. NCAR-ASP Colloquium, Carbon-climate connections in the Earth System, Boulder, CO, Aug. 2013.

C.D. Koven, W.J. Riley. [Invited] Analysis of permafrost thermal dynamics and response to climate change in the CMIP5 models. AGU Fall Meeting, San Francisco, Dec. 2012.

C.D. Koven, W.J. Riley, M.S. Torn, Z.M. Subin, J. Tang. Development, testing, and dynamics of a vertically-resolved C and N model in CLM4. AGU Fall Meeting, San Francisco, Dec. 2012.

C. Koven, W. Riley, A. Stern. Analysis of permafrost thermal dynamics and response to climate change in the CMIP5 Earth System Models. Third International Conference on Earth System Modelling, Hamburg, Germany, Sep. 2012

C. Koven, J. W. Harden, W. J. Riley, C.-L Ping, G. Hugelius, A.D. McGuire, P. Camill, T. Jorgenson, P. Kuhry, G. Michaelson, J. A. O'Donnell, E. A.G. Schuur, C. Tarnocai, K. Johnson, G. Grosse. Quantifying Permafrost C Vulnerable to Climate Change. Tenth International Conference on Permafrost, Salekhard, Russia, June, 2012

C. Koven. [Invited] Frozen Soil Carbon and its Impact on Climate Change. AAAS Annual Meeting, Vancouver, Canada, Feb. 2012

C. Koven, W. J. Riley, Z. M. Subin, J. Tang, M. Torn, J. Harden, D. Lawrence, G. Bonan, S. Swenson. Permafrost C and N Dynamics in CLM4, AGU Fall Meeting, San Francisco, Dec. 2011

C. Koven, B. Ringeval, P. Ciais, P. Friedlingstein, D. Khvorostyanov, G. Krinner, C. Tarnocai. The response of frozen soil respiration to warming controls the 21st century high-latitude carbon balance. AGU Fall Meeting, San Francisco, Dec. 2010

C. Koven, B. Ringeval, P. Ciais, P. Friedlingstein, D. Khvorostyanov, G. Krinner. Impact of frozen soil carbon processes on high latitude carbon balance, IPY Science Conference, Oslo, June 2010

C. Koven, P. Friedlingstein, P. Ciais, D. Khvorostyanov, G. Krinner. Emissions of CO_2 and CH_4 from decomposition of permafrost soil organic carbon under future climate scenarios in ORCHIDEE. International CO2 Conference 8 (ICDC8), Jena, Germany, 2009

C. Koven, P. Friedlingstein, P. Ciais, D. Khvorostyanov, G. Krinner, Modelling permafrost carbon in ORCHIDEE: accumulation and fate under global warming scenarios. Carbon pools in permafrost regions (CAPP) 2nd Workshop, Stockholm, 2009

C. Koven, P. Friedlingstein, P. Ciais, D. Khvorostyanov, Fate of Permafrost Carbon in ORCHIDEE. EGU Spring meeting, Vienna, 2009

Experience

Lawrence Berkeley National Lab, Berkeley, CA
Research Scientist June 2013-Present

Lawrence Berkeley National Lab, Berkeley, CA
Project Scientist Aug 2010-June 2013

Laboratoire des Sciences du Climat et de l'Environnement (LSCE), Gif-sur-Yvette, France
Postdoctoral Researcher CNRS / Chercheur CDD CNRS July 2008-July 2010

University of California, Berkeley, CA
Postdoctoral Researcher January 2007-June 2008

University of California, Berkeley, CA
Graduate Student Researcher September 2000-December 2006

University of California, Berkeley, CA
Teacher: Early Academic Outreach Program: Pre-College Academy July 2005

University of California, Berkeley, CA
Graduate Student Instructor: Biology 1B September-December 2001

Organizations and Outreach

Contributing Author, Intergovernmental Panel on Climate Change Fifth Assessment,
Working Group 1 report, Chapter 6 (Carbon and other biogeochemical cycles)
Working Group 2 report, Chapter 4 (Terrestrial and inland water systems)

Contributing Author, Arctic Monitoring and Assessment Program (AMAP) Short-lived Climate Forcers Expert Group Report on Methane

Member and Task lead, Permafrost Carbon Network 2011-Present

Member, NCAR Community Land Model and Biogeochemistry Working Groups 2010-Present

Scientific Advisory Board Member, Coupled Carbon Cycle Climate Model Intercomparison Project (C^4MIP) for Coupled Model Intercomparison Project, Phase 6 (CMIP6) 2014-Present