

Sébastien C. Biraud

Earth and Environmental Sciences Area
Lawrence Berkeley National Laboratory
One Cyclotron Road, MS 74R316C
Berkeley, CA 94720, USA

Tel: (510) 486-6084
Fax: (510) 486-7897
e-mail: SCBiraud@lbl.gov

EDUCATION

- Ph.D. "Towards the Regionalization of Sources and Sinks of Greenhouse Gases: Analysis of the Synoptic Variability at Mace Head observatory, Ireland", University Paris VII, France, 2000.
Summa Cum Laude
- M.S. Physical Methods in Remote Sensing, University of Paris 7, France, 1995
- B.S. Physics, University of Paris 7, France, 1994

PROFESSIONAL EXPERIENCE

- 2015-present: **Climate Sciences Department Head**, Lawrence Berkeley National Laboratory, USA (Supervisor: Susan Hubbard).
- 2013-present: **Research Scientist**, Lawrence Berkeley National Laboratory, USA (Supervisor: Margaret Torn).
- AmeriFlux Management Project Tech team lead (<http://ameriflux.lbl.gov>).
- ARM Carbon project lead (airborne- & ground- based)
- 2003-2013: **Research Associate**, Lawrence Berkeley National Laboratory, USA (Supervisor: Margaret Torn).
- Precise measurements of trace gas species (CO₂, CH₄, CO, N₂O) and isotopes (¹³CO₂).
- 2001 - 2003: **Post-Doctoral Fellow**, University of California, Berkeley, USA (Supervisor: Prof. Inez Fung).
- Modeling of atmospheric transport using NCAR MATCH model.
- Impact of climate change on aviation in North America.
- 2000 - 2001: **Post-Doctoral Fellow**, University of Galway, Ireland, Ireland (Supervisor: Prof. Gerard Jennings).
- Measurements of radon-222 efflux in Ireland.
- Regionalization of the Irish greenhouse gas emissions.
- Back trajectory model at LSCE (HYSPLIT4).
- 1997 - 2000: **Ph.D.** at Commissariat à l'Energie Atomique/Laboratoire des Sciences du Climat et de l'Environnement (supervisor: Philippe Ciais and Patrick Monfray).
- Management of field campaigns,
- Monitoring of atmospheric concentrations at Mace Head observatory
- Estimation of greenhouse gas emission fluxes.
- 1996 - 1997: High frequency measurements campaign of CO₂ and isotopes ¹³C and ¹⁸O at the Mace Head atmospheric field research station (Ireland), in co-operation with **Galway University College** (Ireland) and **Centre des Faibles Radioactivités** (France) as part of the ESCOBA European project (European Study of Carbon in Ocean, Biosphere and Atmosphere).

FELLOWSHIPS

- Irish Environmental Protection Agency Post-Doctoral Fellowship, 2000-2001
Commissariat à l'Energie Atomique Doctoral Fellowship, 1996-2000

CURRENT GRANT, PI or Co-PI

- AmeriFlux Management Project, 2016-2020 (\$5m/yr, 3 month/yr)
ACME in the Southern Great Plains, 2016-2017 (\$150k, 2 month/yr)
ARM infrastructure in the Southern Great Plains, 2016-2017 (\$805k, 3 month/yr)
ARM Airborne Facility, 2016-2017 (\$80k, 1 month/yr)

PUBLICATIONS (Total=43)

1. McCombs A., A. Hiscox; C. Wang; A. Desai, A. E. Suyker, and **S. C. Biraud**: Evaluation of satellite-based carbon flux phenology metrics for Maize and Soybean. *Submitted to Remote Sensing of Environment*, 2016.
2. Williams, I.N., Y. Lu, L.M. Kueppers, W.J. Riley , **S.C. Biraud**, J.E. Bagley, M.S. Torn. Land-atmosphere coupling and climate prediction over the U.S. Southern Great Plains. *Submitted to J. Geophys. Res. - Atmosphere*, 2016.
3. Kulawik, S. S., O'Dell, C., Payne, V. H., Kuai, L., Worden, H. M., **Biraud, S. C.**, Sweeney, C., Stephens, B., Iraci, L. T., Yates, E. L., and Tanaka, T.: Lower-tropospheric CO₂ from near-infrared ACOS-GOSAT observations, *Atmos. Chem. Phys. Discuss.*, doi:10.5194/acp-2016-720, in review, 2016.
4. Inoue, M, I. Morino, O. Uchino, Y. Yoshida, T. Yokota, D. Wunch, P.O. Wennberg, C.M. Roehl, D.W.T. Griffith, V.A. Velasco, N.M. Deutscher, T. Warneke, J. Notholt, J. Robinson, V. Sherlock, F. Hase, T. Blumenstock, M. Rettinger, R. Sussmann, E. Kyrö, R. Kivi, S. Kawakami, M. De Mazière, D. G. Feist, T. Machida, Y. Sawa, K. Tsuboi, H. Matsueda, C. Sweeney, P.P. Tans, A.E. Andrews, **S.C. Biraud**, Y. Fukuyama, J.V. Pittman, E.A. Kort, S.C. Wofsy, and T. Tanaka. Bias corrections of GOSAT SWIR XCO₂ and XCH₄ with TCCON data and their evaluation using aircraft measurement data. *Atmos. Meas. Tech.*, doi:10.5194/amt-9-3491-2016.
5. Williams, I. N., W. J. Riley, L. M. Kueppers, **S.C. Biraud**, and M. S. Torn, Separating the effects of phenology and diffuse radiation on gross primary productivity in winter wheat, *J. Geophys. Res. Biogeosciences*, 121, 1903–1915, doi:10.1002/2015JG003317, 2016
6. Helbig, M., K. Wischniewski, G.H. Gosselin, **S.C. Biraud**, I. Bogoev, W. S. Chan; E. S. Euskirchen, A.J. Glenn, P.M. Marsh, W.L. Quinton, O. Sonnentag. Sensible heat bias in measurements of carbon dioxide fluxes with an open-path eddy covariance system. *Agricultural and Forest Meteorology*, doi: 10.1016/j.agrformet.2016.07.018, 2016.
7. Turner, A.J., D.J. Jacob, J. Benmergui, S.C. Wofsy, J.D. Maasackers, A. Butz, O. Hasekamp, and **S.C. Biraud**. A large increase in U.S. methane emissions over the past decade inferred from satellite data and surface observations, *Geophys. Res. Lett.*, 43, 2218–2224, doi:10.1002/2016GL067987, 2016.
8. Hu, L., S.A. Montzka, B.R. Miller, A.E. Andrews, J.B. Miller, S.J. Lehman, C. Sweeney, S. Miller, K. Thoning, C. Siso, E. Atlas, D. Blake, J.A. de Gouw, J.B. Gilman, G. Dutton, J.W. Elkins, B.D. Hall, H. Chen, M.L. Fischer, M. Mountain, T. Nehrkorn, **S.C. Biraud**, F. Moore, and P.P. Tans. Continued emissions of carbon tetrachloride from the U.S. nearly two decades after its phase-out for dispersive uses. *Proceedings of the National Academy of Sciences*, doi/10.1073/pnas.1522284113 2016.
9. Wharton S., M. Simpson, J. Ossuna, J. Newman, **S.C. Biraud**. Role of Surface Energy Exchange for Simulating Wind Turbine Inflow: Role of Surface Energy Exchange for Simulating Wind Turbine Inflow: A Case Study in the Southern Great Plains, USA. *Atmosphere*, 6, 21-49; doi:10.3390/atmos6010021 (special issue : Exploring The Atmosphere's First Mile), 2015.
10. Toomey M., M.A. Friedl, S. Frohling, K. Hufkens, S. Klosterman, O. Sonnentag, D.D. Baldocchi, C.J. Bernacchi, **S.C. Biraud**, G. Bohrer, E. Brzostek, S.P. Burns, C. Coursolle, D.Y. Hollinger, H.A. Margolis, H. McCaughey, R.K. Monson, J.W. Munger, S. Pallardy, R.P. Phillips, M. Torn, S. Wharton, M. Zeri, A. D. Richardson. Greenness indices from digital cameras predict the timing and seasonal dynamics of canopy-scale photosynthesis. *Ecological applications*, 25 (1), 99-115, doi: 10.1890/14-0005.I.sm2015.
11. Hu L., S.A. Montzka, J.B. Miller, A.E. Andrews, S.J. Lehman, B.R. Miller, K. Thoning, C. Sweeney, H. Chen, D. Godwin, K. Masarie, L. Bruhwiler, M.L. Fischer, **S.C. Biraud**, M.S. Torn, M. Mountain, T. Nehrkorn, J. Eluszkiewicz, S. Miller, R.R. Draxler, A.F. Stein, B.D. Hall, J.W. Elkins, and P.P. Tans. U.S. emissions of HFC-134a derived for 2008-2012 from an extensive flask-air sampling network. *J. Geophys. Res. Atmos.*, 120, 801–825, doi:10.1002/2014JD022617. 2015.
12. Sweeney, C., A. Karion, S. Wolters, T. Newberger, D. Guenther, D. Neff, J.A. Higgs, P.M. Lang, E. Dlugokencky, A.E. Andrews, J.B. Miller, S.A. Montzka, B.R. Miller, M. Crotwell, A. Crotwell, K.A. Masarie, P.C. Novelli, K. Thoning, **S.C. Biraud**, and P.P. Tans. Seasonal climatology of CO₂ across North America from aircraft measurements in the NOAA/ESRL Global Greenhouse Gas Reference Network, *Journal of Geophysical Research.*, *J. Geophys. Res. Atmos.*, 120, doi:10.1002/2014JD022591. 2015.
13. Tadic J., V. Ilić, **S.C. Biraud**. Kriging versus artificial neural networks as spatial interpolators in anisotropic atmospheric environments. *Atmospheric Environment*, 111, 28-38, doi:10.1016/j.atmosenv.2015.03.063, 2015.
14. Turner, A.J., D.J. Jacob, K.J. Wecht, J.D. Maasackers, **S.C. Biraud**, H. Boesch, K.W. Bowman, N.M. Deutscher, M.K. Dubey, D.W.T. Griffith, F. Hase, A. Kuze, J. Notholt, H. Ohyama, R. Parker, V.H. Payne,

- R. Sussmann, V.A. Velasco, T. Warneke, P.O. Wennberg, and D. Wunch. Estimating global and North American methane emissions with high spatial resolution using GOSAT satellite data. *Atmos. Chem. Phys.*, 15, 7049–7069, doi:10.5194/acp-15-7049-2015.
15. Raz-Yaseef, N., D.P. Billesbach, M.L. Fischer, **S.C. Biraud**, S.A. Gunter, J.A. Bradford, M.S. Torn. Vulnerability of crops and native grasses to summer drying in the U.S. Southern Great Plains. *Agriculture, Ecosystems and Environment*, 213, 209–218, doi:10.1016/j.agee.2015.07.021, 2015.
 16. Williams I.N., W.J. Riley, M.S. Torn, **S.C. Biraud**, and M.L. Fischer. Biases in regional carbon budgets from covariation of surface fluxes and weather in transport model inversions. *Atmos. Chem. Phys.*, 14, 1571–1585; doi:10.5194/acp-14-1571-2014.
 17. Schmid B., J. M. Tomlinson, J. M. Hubbe, J. M. Comstock, F. Mei, D. Chand, M. S. Pekour, C. D. Kluzek, E. Andrews, **S.C. Biraud**. The DOE ARM Aerial Facility. *Bulletin of the American Meteorology Society*, doi: 10.1175/BAMS-D-13-00040.1, 2014.
 18. Inoue M., I. Morino, O. Uchino, Y. Miyamoto, T. Saeki, Y. Yoshida, T. Yokota, C. Sweeney, P. P. Tans, **S.C. Biraud**, T. Machida, J. V. Pittman, E. A. Kort, T. Tanaka, S. Kawakami, Y. Sawa, K. Tsuboi, and H. Matsueda. Validation of XCH₄ derived from SWIR spectra of GOSAT TANSO-FTS with aircraft measurement data. *Atmos. Meas. Tech.*, 7, 2987–3005, doi:10.5194/amt-7-2987-2014.
 19. **Biraud S.C.**, M.S. Torn, J.R. Smith, C. Sweeney, W.J. Riley, and P. P. Tans. A Multi-Year Record of Airborne CO₂ observations in the U.S. Southern Great Plains. *Atmos. Meas. Tech.*, 6, 751–763, 2013, doi:10.5194/amt-6-751-2013.
 20. Kuai, L., J. Worden, S. Kulawik, K. Bowman, M., Lee, **S.C. Biraud**, J.B. Abshire, S.C. Wofsy, V. Natraj, C. Frankenberg, D. Wunch, B. Connor, C. Miller, C. Roehl, R-L. Shia, and Y. Yung. Profiling tropospheric CO₂ using Aura TES and TCCON instruments, *Atmos. Meas. Tech.*, 6, 63-79, 2013, doi:10.5194/amt-6-63-2013.
 21. Kulawik, S.S., J.R. Worden, S.C. Wofsy, **S.C. Biraud**, R. Nassar, D.B.A. Jones, E.T. Olsen, G.B. Osterman. Comparison of improved Aura Tropospheric Emission Spectrometer (TES) CO₂ with HIPPO and SGP aircraft profile measurements, *Atmos. Chem. Phys.*, 13, 3205–3225, 2013, doi:10.5194/acp-13-3205-2013.
 22. Basu S., S. Guerlet, A. Butz, S. Houweling, O. Hasekamp, I. Aben, P. Krummel, P. Steele, R. Langenfelds, M. Torn, **S.C. Biraud**, B. Stephens, A. Andrews, and D. Worthy. Global CO₂ fluxes estimated from GOSAT retrievals of total column CO₂. *Atmos. Chem. Phys.*, 13, 8695–8717, 2013, doi:10.5194/acp-13-8695-2013.
 23. Inoue M., I. Morino, O. Uchino, Y. Miyamoto, Y. Yoshida, T. Yokota, T. Machida, Y. Sawa, H. Matsueda, C. Sweeney, P. P. Tans, A. E. Andrews, **S.C. Biraud**, S. Kawakami, and P. K. Patra. Validation of XCO₂ derived from SWIR spectra of GOSAT TANSO-FTS with aircraft measurement data, *Atmos. Chem. Phys.*, 13, 9771-9788, doi:10.5194/acp-13-9771-2013.
 24. Miyamoto Y., M. Inoue, I. Morino, O. Uchino, T. Yokota, T. Machida, Y. Sawa, H. Matsueda, C. Sweeney, P.P. Tans, A.E. Andrews, **S.C. Biraud** and P.K. Patra. Atmospheric column-averaged mole fractions of carbon dioxide at 53 aircraft measurement sites. *Atmos. Chem. Phys.* 13, 9213–9216, doi:10.5194/acp-13-9213-2013.
 25. Miller S., S.C. Wofsy, A.M. Michalak, E.A. Kort, A.E. Andrews, **S.C. Biraud**, E.J. Dlugokencky, M.L. Fischer, G. Janssens-Maenhout, and C. Sweeney. Anthropogenic emissions of methane in the United States. *Proceedings of the National Academy of Sciences*, 20018–20022, doi: 10.1073/pnas.1314392110, 2013.
 26. Fischer, M.L., M.S. Torn, D.P. Billesbach, G. Doyle, B. Northup, **S.C. Biraud**. Carbon, Water, and Heat Flux Responses to Experimental Burning and Drought in a Tallgrass Prairie. *Agricultural and Forest Meteorology*, Volumes 166–167, Pages 169-174, doi: 10.1016/j.agrformet.2012.07.011, 2012.
 27. Torn, M.S., **S.C. Biraud**, C.J. Still, W.J. Riley, and J.A. Berry, Seasonal and inter-annual variability in ¹³C composition of ecosystem carbon fluxes in the U.S. Southern Great Plains, *Tellus B*, 63B, 181-195, doi: 10.1111/j.1600-0889.2010.00519.x, 2011.
 28. Williams, I., W.J. Riley, M.S. Torn, J.A. Berry, and **S.C. Biraud**. Using boundary layer equilibrium to reduce uncertainties in transport models and CO₂ flux inversions. *Atmos. Chem. Phys.*, 11, 9631-9641, doi:10.5194/acp-11-9631-2011, 2011.
 29. Wunch, D., P.O. Wennberg, G.C. Toon, **S.C. Biraud** et al., A Method for Evaluating Bias in Global Measurements of CO₂ Total Columns from Space. *Atmos. Chem. Phys.*, 11, 12317–12337, 2011, doi:10.5194/acp-11-12317-2011.
 30. Abshire, J.B., H. Riris, G.R. Allan, C. J. Weaver, J. Mao, X. Sun, W.E. Hasselbrack, S.R. Kawa, and **S.C. Biraud**, Pulsed Airborne LIDAR Measurements of Atmospheric CO₂ Column Absorption, *Tellus B*, 62, 770-783., doi: 10.1111/j.1600-0889.2010.00502.x, 2010.

31. Kulawik, S.S., D.B.A. Jones, R. Nassar, F. W. Irion, J.R. Worden, K.W. Bowman, T. Machida, H. Matsueda, Y. Sawa, **S.C. Biraud**, M.L. Fischer, and A.R. Jacobson, Characterization of Tropospheric Emission Spectrometer (TES) CO₂ for carbon cycle science, *Atmos. Chem. Phys.*, 5601-5623, doi:10.5194/acp-10-5601-2010.
32. Wunch, D., G.C. Toon, P.O. Wennberg, S.C. Wofsy, B.B. Stephens, M.L. Fischer, O. Uchino, J.B. Abshire, P. Bernath, **S.C. Biraud**, J.L. Blavier, and C. Boone, Calibration of the Total Carbon Column Observing Network using Aircraft Profile Data, *Atmos. Meas. Tech.*, 3, 1351-1362, doi:10.5194/amt-3-1351-2010.
33. Yurganov, L., W. McMillan, C. Wilson, M.L. Fischer, and **S.C. Biraud**, Carbon monoxide mixing ratios over Oklahoma between 2002 and 2009 retrieved from Atmospheric Emitted Radiance Interferometer spectra, *Atmos. Chem. Phys.*, 3, 1319-1331, doi:10.5194/amt-3-1319-2010.
34. McMillan W.W., R. Pierce, L.C. Sparling, G. Osterman, K. McCann, M.L. Fischer, B. Rappengluck, R. Newsom, D. Turner, C. Kittaka, K. Evans, **S.C. Biraud**, B. Lefer, A. Andrews, S. Oltmans. An Observational and modeling strategy to investigate the impact of remote sources on local air quality: A Houston, Texas case study from TEXAQS II. *J. Geophys. Res.*, 115, D01301, doi:10.1029/2009JD011973, 2010.
35. Riley, W.J., **S.C. Biraud**, M.L. Fischer, J.A. Berry, M.S. Torn. Regional CO₂ and Latent Heat Surface Fluxes in the Southern Great Plains: Measurements, Modeling, and Scaling. *J. Geophys. Res. - Biogeosciences*. 114, doi: 10.1029/2009JG001003, 2009.
36. Still, C.J., W.J. Riley, **S.C. Biraud**, D.C. Noone, N.H. Buenning, J.T. Randerson, G.D. Farquhar, M.S. Torn, and J.A. Berry. The influence of clouds and diffuse radiation on ecosystem-atmosphere CO₂ and C¹⁸O exchanges, *J. Geophys. Res. - Biogeosciences*. 114, G01018, doi: 10.1029/2007JG000675, 2009.
37. Angert A., **S.C. Biraud**, C. Bonfils, C. Henning, W. Buermann, J. Pinzon, C.J. Tucker, and I. Fung. Drier summers cancel out the CO₂ uptake enhancement induced by warmer springs, *Proceedings of the National Academy of Sciences*, 102, 10823-10827, doi: 10.1073/pnas.0501647102, 2005.
38. Bonfils C., A. Angert, C. Henning, **S.C. Biraud**, S.C. Doney, and I. Fung. Extending the record of photosynthetic activity in the eastern United States into the pre-satellite period using surface diurnal temperature range, *Geophysical Research Letters*., 32, L08405, doi: 10.1029/2004GL019760, 2005.
39. Angert A., **S.C. Biraud**, C. Bonfils, W. Buermann, and I. Fung. CO₂ seasonality indicates origins of post-Pinatubo sink, *Geophysical Research Letters*, 31, L11103, doi: 10.1029/2004GL022583, 2004.
40. Ramonet M., P. Ciais, I. Nepomniachii, K. Sidorov, R.E.M. Neubert, D. Picard, V. Kazan, **S.C. Biraud**, M. Gusti, E.D. Schulze and J. Lloyd. Three years of aircraft based trace gas measurements over Fyodoroskye southern taiga forest, 300 km North-West of Moscow, *Tellus-B*, 54B, 713-734, doi: 10.1034/j.1600-0889.2002.01358.x, 2002.
41. **Biraud S.C.**, P. Ciais, M. Ramonet, P. Simmonds, V. Kazan, P. Monfray, S. O'Doherty, T.G. Spain and S.G. Jennings. Quantification of carbon dioxide, methane, nitrous oxide and chloroform emissions over Ireland from atmospheric observations at Mace Head, *Tellus-B*, 54B, 41-60, doi: 10.1034/j.1600-0889.2002.00228.x, 2002.
42. Derwent R.G., D.B. Ryall, A.J. Manning, P.G. Simmonds, S. O'Doherty, **S.C. Biraud**, P. Ciais, M. Ramonet and S.G. Jennings, Continuous observations of carbon dioxide at Mace Head, Ireland from 1994-1999 and its net European ecosystem exchange, *Atmospheric Environment*, 36, 2799-2807, doi: 10.1016/S1352-231-(02)00203-0, 2002.
43. **Biraud S.C.**, P. Ciais, M. Ramonet, P. Simmonds, V. Kazan, P. Monfray, S. O'Doherty, T.G. Spain and S.G. Jennings., European greenhouse gas emissions estimated from continuous atmospheric measurements and radon 222 at Mace Head, Ireland, *J. Geophys. Res.*, 105, 1351-1366, doi: 10.1029/1999JD900821, 2000.

COLLABORATORS AND OTHER AFFILIATES

- Student and staff: Noah Amme (U. of Washington), Dave Billesbach (UNL), Stephen Chan (LBNL), Laura Cunningham (UCB), Brian Curtis (LBNL), Steven Demartini (UCB), Sigrid Dengel (LBNL), Chad Hanson (OSU), Don Herman (UCB), Andrew Moyes (LBNL), Naama Raz-Yaseef (LBNL), Ken Reichl (LBNL), Pascal Polonik (UCB, LBNL), Eric Rubin (UCB), Jovan Tadic (LBNL).

- Collaborators and co-authors: J. Abshire (NASA/GSFC), A. Angert (The Hebrew University of Jerusalem), A. Turner (Harvard University), S. Basu (SRON), C. Bonfils (LLNL), P. Ciais (LSCE), R. Derwent (U.K. Met Office), D. Feldman (LBNL), M. Fischer (LBNL), M. Helbig (University of Montreal), L. Hu (NOAA/ESRL), M. Inoue (NIES), D. Jacob (Harvard University), L. Kuai (JPL), S. Kulawik (NASA/JPL), A. Milller (Harvard University), W. McMillan (University of Maryland), Y. Miyamoto (NIES), M. Ramonet (LSCE), W. Riley (LBNL), S. Miller (Harvard University), B. Schmidt (PNNL), B. Schmid (PNNL), C. Still (Oregon State

University), C. Sweeney (NOAA/ESRL), J. Tadic (Carnegie Institute for Science), P. Tans (NOAA/ESRL), M. Toomey (Harvard University), A. Turner (Harvard University), I. Williams (LBNL), S. Wharton (LLNL), S. Wofsy (Harvard University), D. Wunch (CalTech), L. Yurganov (University of Maryland).

REPORTS

1. **Biraud S.C.**, ARM-ACME-V: ARM Airborne Carbon Measurements V in the North Slope of Alaska Field Campaign. DOE/SC-ARM-16-031. **DOE Office of Science Atmospheric Radiation Measurement (ARM) Program (United States)**. May 2016.
2. Wharton S., M. Simpson, J. Ossuna, J. Newman, and **S.C. Biraud**, The Role of Surface Energy Exchange for Simulating Wind Inflow: An Evaluation of Multiple Land Surface Models in WRF for the Southern Great Plains Site Field Campaign. DOE/SC-ARM-14-040. **DOE Office of Science Atmospheric Radiation Measurement (ARM) Program (United States)**. May 2016.
3. **Biraud S.C.** and K. Reichl. Aerosol Observing System Greenhouse Gas (AOSGHG) Handbook. DOE/SC-ARM--TR-175. **DOE ARM Climate Research Facility**, Pacific Northwest National Laboratory; Richland, Washington. March 2016.
4. **Biraud S.C.**, CCG-Flasks Instrument Handbook. DOE/SC-ARM--TR-181. **DOE ARM Climate Research Facility**, Pacific Northwest National Laboratory; Richland, Washington. March 2016.
5. Reichl K. and **S.C. Biraud**. AmeriFlux Measurement Component (AMC) Handbook. DOE/SC-ARM-TR--143. **DOE ARM Climate Research Facility**, Pacific Northwest National Laboratory; Richland, Washington. January 2016.
6. Torn M.S., M.L. Fischer, **S.C. Biraud**, and D. Billesbach. Precision Gas Sampling (PGS) Validation 2011-2014 Final Campaign Report. DOE/SC-ARM--15-028. **DOE ARM Climate Research Facility**, Pacific Northwest National Laboratory; Richland, Washington. January 2016.
7. **Biraud S.C.** and M.S. Torn. ARM Airborne Carbon Measurements (ARM-ACME) and ARM-ACME 2.5 Final Campaign Reports. DOE/SC-ARM-15-026. **DOE ARM Climate Research Facility**, Pacific Northwest National Laboratory; Richland, Washington. January 2016.
8. **Biraud S.C.** ACME-III and ACME-IV Final Campaign Reports. DOE/SC-ARM--15-034. **DOE ARM Climate Research Facility**, Pacific Northwest National Laboratory; Richland, Washington. January 2016.
9. **Biraud S.C.** ARM Airborne Carbon Measurements VI (ACME-VI) Science Plan. DOE/SC-ARM-15-047. **DOE ARM Climate Research Facility**, Pacific Northwest National Laboratory; Richland, Washington. December 2015.
10. Fischer M.L., **S.C. Biraud**, Radon Measurements of Atmospheric Mixing (RAMIX) 2006–2014 Final Campaign Summary. DOE/SC-ARM-15-027. **DOE ARM Climate Research Facility**, Pacific Northwest National Laboratory; Richland, Washington. May 2015.
11. **Biraud S.C.** ARM-ACME V: ARM Airborne Carbon Measurements V on the North Slope of Alaska Science and Implementation Plan. DOE/SC-ARM-15-032. **DOE Office of Science Atmospheric Radiation Measurement (ARM) Program (United States)**. May 2015.
12. **Biraud S.C.**, M.S. Torn, J.R. Smith, C. Sweeney, and P.P. Tans, 16th WMO/IAEA Proceeding of Carbon Dioxide, Other Greenhouse Gases, and Related Measurement Techniques Meeting (GGMT-2011), Wellington, New Zealand, 25-28 October 2011.
13. Karasaki K., C.T. Onishi, B. Black, and **S.C. Biraud**: Development of Hydrologic Characterization Technology of Fault Zones -- Phase I, 2nd Report, Lawrence Berkeley National Laboratory, LBNL-1635E-2009, March 2009.
14. Jennings S.G., P. Ciaï, **S.C. Biraud**, and M. Ramonet, Irish Greenhouse Gas Emissions. Environmental RTDI Programme 2000 - 2006, **Irish Environmental Protection Agency** report , 2003.
15. **Biraud S.C.**, Towards the regionalization of sources and sinks of greenhouse gases: analysis of the synoptic variability at Mace Head observatory, Ireland. University of Paris 7 (Denis-Diderot), France, **Ph.D. Thesis**, November 2000.
16. Ramonet M., P. Ciaï, C. Bourq, V. Kazan, D. Picard, **S.C. Biraud**, M. Grall, R. Sarda, P. Chamaret, and P. Monfray. Technical Report: LSCE, France, **World Meteorological Organization / Global Atmosphere Watch** Report 132, 10-15, 1997.
17. **Biraud S.C.**, Contribution of middle infrared wavelengths to mapping deforestation along *Maroni* River (French Guyana). **End of study Report** , University of Paris 7 (Denis-Diderot), France, September 1995.
18. **Biraud S.C.**, Wind/wave structures in tropical cyclones observed with micro-wave instruments (ERS-1 and SSMI satellites). **End of study Report**, University of Paris 7 (Denis-Diderot), France, June 1995.

CONFERENCE PRESENTATIONS

- **Biraud S.C.**, S.W. Chan, D.J. Herman, K. Reichl, and M.S. Torn. New Baseline Carbon Cycle Observations at ARM Facilities. ARM/ASR PI meeting, **Tysons**, May 4, 2016.
- **Biraud S.C.**, C. Sweeney, and M.S. Torn. ACME-V mission in the North Slope of Alaska (Airborne Carbon MEasurements), (oral communication). ARM/ASR PI meeting, **Tysons**, Virginia, May 3, 2016.
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- **Biraud S.C.**, Towards the regionalization of sources and sinks of greenhouse gases: analysis of the synoptic variability at Mace Head observatory, Ireland (oral communication), *University Paris VII*, **Paris**, France, *November 20 2000*.

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- **Biraud S.C.**, P. Ciais, and P. Monfray, CO₂ measurements over Oceanic and continental Europe (poster presentation), *5th International Carbon Dioxide Conference, Cairns, Australia, September 8-12 1997.*

SPECIAL SKILLS

Computer skills: proficiency in programming (SHELL, PERL, C, FORTRAN, IDL, HTML).

Native language: FRENCH.

Other languages: ENGLISH (full working knowledge).

SPANISH (minimal working knowledge).

Hobbies: Flying (French private license), Scuba diving (divemaster).