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Education:

Ph.D., Ecology, Evolution and Marine Biology
(emphasis in watershed biogeochemistry and limnology)
University of California, Santa Barbara, 2001

M.A., Aquatic and Population Biology
University of California, Santa Barbara

B.A., Aquatic Biology
University of California, Santa Barbara (*With Distinction in the Major*)

Research Interests:

Biogeochemistry, hydrology, limnology and global environmental change

Professional Affiliations:

American Society of Limnology and Oceanography
American Geophysical Union

Professional Experience:

2007 – present: Assistant Professor (Step V/OS). Department of Environmental Sciences, University of California, Riverside. Biogeochemistry of rivers, lakes and wetlands.

2004 – 2007: Assistant Professor (tenure-accruing). Soil and Water Science Department, University of Florida-IFAS. Biogeochemistry of rivers, lakes and wetlands.

2003 – 2004: Assistant Professor (limited-term). Department of Geology and Geophysics, and Pontchartrain Institute for Environmental Sciences, University of New Orleans, Louisiana. Watershed biogeochemistry and ecosystem restoration in the Mississippi Delta and Sacramento River Delta.

2001 – 2003: Senior Environmental Scientist. California Department of Water Resources, Division of Environmental Services, Sacramento, California. Carbon biogeochemistry, AMS carbon dating, aquatic ecological processes and water-quality investigations of the Sacramento-San Joaquin River Delta and State Water Project.

1997 – 2001: Staff Research Associate IV. Donald Bren School of Environmental Science and Management, University of California, Santa Barbara. Global-change research on biogeochemistry, aquatic ecology and hydrology of the Sierra Nevada and Rocky Mountains.

1987 – 1996: Staff Research Associate I, II and III. Marine Science Institute, University of California, Santa Barbara. Biological effects of acid deposition on aquatic ecosystems and planktonic primary productivity. Regional analyses of acid deposition and aquatic ecosystems in the Sierra Nevada, California.

Journal Publications: (* graduate student, ^ post doc, #colleague)

Published (Note: Reprints are available at: <http://www.envisci.ucr.edu/faculty/sickman/publist.html>)

22. #Engel, D., J.O. Sickman, J.M. Melack, C. Moore, A. Esperanza, and J. Keeley. 2008. The biogeochemical legacy of prescribed fire in a mixed conifer forest of Sequoia National Park: A sixteen year record of watershed balances. *JGR Biogeosciences*. Vol. 113: doi:10.1029/2006JG000391.
21. ^Miller, A.E., J.P. Schimel, J.O. Sickman, A.P. Doyle, T. Meixner, and J.M. Melack. 2007. Mineralization responses at near-zero temperatures in three alpine soils. *Biogeochemistry*. Vol. 84 (3): 233-245.
20. Sickman, J., M.J. Zanolli, and H. Mann. 2007. Effects of Urbanization on Organic Carbon Loads in the Sacramento River, California. *Water Resources Research*. Vol. 43: W11422, doi:10.1029/2007WR005954.
19. #Li, X.Y., T. Meixner, J.O. Sickman, A.E. Miller, J.P. Schimel, and J.M. Melack. 2006. Decadal-scale dynamics of water, carbon and nitrogen in a California chaparral ecosystem: DAYCENT modeling results. *Biogeochemistry* 77 (2): 217-245.
18. #Leblond, J.D., M.R. Sengcob, J.O. Sickman, J.D. Donald and M. Anderson. 2006. Sterols of the Syndinian Dinoflagellate parasite, *Amoebophrya* sp. ex *Alexandrium tamarense* (Dinophyceae). *Journal of Eukaryotic Microbiology* 53 (3): 211-216.
17. #MacIntyre, S. J.O. Sickman, G.W. Kling, and S. Goldthwait. 2006. Pathways of nutrient supply in a small, ultra-oligotrophic arctic lake during summer stratification. *Limnology and Oceanography* 51: 1107-1124.
16. ^Miller, A.E., J.P. Schimel, T. Meixner, J.O. Sickman and J.M. Melack. 2005. Episodic rewetting enhances carbon and nitrogen release from chaparral soils. *Soil Biology and Biochemistry* 37: 2195-2204.
15. #Berg, N.H., A. Gallegos, T. Dell, J. Frazier, T. Proctor, J.O. Sickman, S. Grant, T. Blett and M. Arbaugh. 2005. A screening procedure of identifying acid-sensitive lakes from catchment characteristics. *Environmental Monitoring & Assessment* 105: 285-307.
14. #Kramer-Huth, A., A. Leydecker, J.O. Sickman and R.C. Bales. 2004. A two-component hydrograph separation for three high-elevation catchments in the Sierra Nevada, California. *Hydrological Processes*: 18(9):1721-1733.
13. #Meixner, T., Gutmann, C. K., Bales, R. C., Leydecker, A., Sickman, J. O., Melack, J., and McConnell, J. 2004. Multidecadal hydrochemical response of a Sierra Nevada watershed: Sensitivity to weathering rate and changes in deposition. *J. Hydrol.*, 285: 272-285.
12. Sickman, J.O., D. Clow and J.M. Melack. 2003. Evidence for nutrient enrichment of high-elevation lakes in the Sierra Nevada, California. *Limnology and Oceanography*: 48(5): 1885-1892.
11. #Clow, D.W., J.O. Sickman, R.G. Striegell, D.P. Krabbenhoft, J.G. Elliott, M. Dornblaser, D.A. Roth, and D.H. Campbell. 2003. Changes in the chemistry of lakes and precipitation in high-elevation National Parks in the Western United States, 1985-1999. *Water Resour. Res.* 39(6): 1171, doi:10.1029/2002WR001533.

10. #Fenn, M.E., J.S. Baron, E.B. Allen, H.M. Rueth, K.R. Nydick, L. Geiser, W.D. Bowman, J.O. Sickman, T. Meixner and D.W. Johnson. 2003. Ecological effects of nitrogen deposition in the western United States. *BioScience* 53 (4): 404-420.
9. #Fenn, M.E., R. Haebuer, G.S. Tonnesen, J.S. Baron, S. Grossman-Clarke, D. Hope, D.A. Jaffe, S. Copeland, L Geiser, H.M. Rueth and J.O. Sickman. 2003. Nitrogen Emissions, deposition and monitoring in the western United States. *BioScience* 53 (4): 391-403.
8. Sickman, J.O., A. Leydecker, Chang, C.C.Y., C. Kendall, J.M. Melack, D.M. Lucero and J.P. Schimel. 2003. Mechanisms underlying export of N from high-elevation catchments during seasonal transitions. *Biogeochemistry* 64: 1-32.
7. Sickman, J.O., J.M. Melack and J.S. Stoddard. 2002. Regional analysis of inorganic nitrogen yield and retention in high-elevation ecosystems of the Sierra Nevada and Rocky Mountains. *Biogeochemistry* 57 (1): 341-374.
6. #Leydecker, A., J.O. Sickman and J.M. Melack. 2001. Spatial scaling of hydrological and biogeochemical aspects of high-elevation catchments in the Sierra Nevada, California. *Arctic, Antarctic and Alpine Res.* 33: 391-396.
5. Sickman, J.O., A. Leydecker and J.M. Melack. 2001. Nitrogen mass balances and abiotic controls on N retention and yield in high-elevation ecosystems of the Sierra Nevada, California, USA. *Water Resour. Res.* 37:1445-1461.
4. #Leydecker, A., J.O. Sickman and J.M. Melack. 1999. Episodic lake acidification in the Sierra Nevada, California. *Water Resour. Res.* 35: 2793-2804.
3. Sickman, J.O. and J.M. Melack. 1998. Nitrogen and sulfate export from high elevation catchments of the Sierra Nevada, California. *Water Air and Soil Pollution* 105: 217-226.
2. #Melack, J.M., S.K. Hamilton, and J.O. Sickman. 1993. Interannual solute variations in a high elevation lake of the Sierra Nevada. *Verh. Internat. Verein. Limnol.* 70: 231-234.
1. Sickman, J.O., and J.M. Melack. 1992. Photosynthetic activity of phytoplankton in a high altitude lake (Emerald Lake, Sierra Nevada, California). *Hydrobiologia* 230: 37-48.

In Press

2. *Vasques, G.M., S. Grunwald, and J.O. Sickman. Comparison of multivariate methods for inferential modeling of soil carbon using visible/near-infrared spectra. *Geoderma*. (Accepted 05/19/2008. 12 galley pages)
1. *Vasques, G.M., S. Grunwald, and J.O. Sickman. Modeling of soil organic carbon fractions using visible/near-infrared spectroscopy. *Soil Science Society of America Journal*. (Accepted 07/07/2008. 43 manuscript pages.)

In Review

5. *Albertin, A., Sickman, J.O., Pinowska, A., Anderson, M.H., and Stevenson, R.J. Macroalgal responses to nitrate additions under conditions of low phosphorus in recirculating stream channels. *Freshwater Biology*. (Submitted 09/14/2007)
4. ^Ahn, M., Comerford, N.B., Sickman, J.O., Zimmerman, A.R., and Grunwald, S. Affect of Landuse on Carbon Pools in a Florida Watershed. *Ecosystems*. (Submitted 05/01/2008)
3. *Martin, M.M., Sickman, J.O., and Tipping, P. Invasion by an exotic tree alters above and belowground ecosystem components. *Biological Invasions*. (Submitted 06/01/2008)
2. #Schoor, E., Vogel, J.G., Grace, K., Lee, H., Sickman, J.O., and Osterkamp, T.E. Permafrost thaw stimulates old carbon release and alters net carbon exchange from upland tundra. *Science*. (Submitted 05/15/2008)
1. Sickman, J.O., Anderson, M.H., Albertin, A., Pinowska, A., and Stevenson, R.J. Estimation of potential autochthonous sources of carbon, nitrogen and phosphorus in *Vaucheria* and *Lyngbya* mats of Florida springs. *Journal of Aquatic Plant Management*. (Submitted 09/15/2008)

In Preparation

2. Sickman, J., Molotch, N. and J.M. Melack. Do variable source-area dynamics control N export from high-elevation catchments? To be submitted to *JGR Biogeosciences* 10/15/2008. (38 manuscript pages).
1. Sickman, J., DiGiorgio, C., Davisson, M.L., and D.M. Lucero. Identifying organic matter sources in agriculturally dominated rivers using radiocarbon: Sacramento-San Joaquin River Basin, California. To be submitted to *Water Research* 10/01/2008. (47 manuscript pages).

Conference and Symposia Proceedings

Published: (Note: Reprints are available at: <http://www.envisci.ucr.edu/faculty/sickman/publist.html>)

1. Sickman, J.O., Von Kiparski, G., Lucero, D.M., Schoor, E., Vogel, J.G., Vicars, W. 2008. The role of lakes in carbon transfers from permafrost to the atmosphere: Eight Mile Lake, Alaska. *International Permafrost Association*. 2p. Ninth International Conference on Permafrost. Fairbanks, Alaska. 07/01/2008.

Submitted:

1. #Grunwald, S., Vasques, G.M., Comerford, N.B., Bruland, G.L., Bliss, C.M., Sickman, J.O. Biogeochemical soil-landscape modeling. (Submission Date 09/08/2008.) 13p. Digital Soil Mapping Conference. International Working Group on Digital Soil Mapping.

Book Chapters:

Published: (Note: Reprints are available at: <http://www.envisci.ucr.edu/faculty/sickman/publist.html>)

1. #Melack, J.M., Sickman, J.O. 1995. Snowmelt induced changes in seven streams in the Sierra Nevada, California. *Biogeochemistry of Seasonally Snow-Covered Catchments*. Editors: K.A. Tonnessen, M.W. Williams and M. Tranter. IAHS Publication no. 228. p. 21-234.
2. #Fenn, M.E., Poth, M.A., Bytnerowicz, A., Sickman, J.O., Takemoto, B.K. 2003. Effects of ozone, nitrogen deposition, and other stressors on montane ecosystems in the Sierra Nevada. *Ozone Air Pollution in the Sierra Nevada--Distribution and Effects on Forests*. Editors: Elsevier Science Ltd. Oxford UK. p. 11-155.

In Press

1. #Fenn, M.E., Sickman, J.O., Bytnerowicz, A., Clow, D.W., Molotch, N.P., Pleim, J.E., Tonnesen, G.S., Weathers, K.C., Padgett, P.E., Campbell, D.H. Methods for Measuring Atmospheric Deposition Inputs in Arid and Montane Ecosystems of Western North America. Relating Atmospheric Source Apportionment to Vegetation Effects: Establishing Cause and Effect Relationships. Editors: Elsevier Science Ltd. Oxford UK. (Accepted 06/18/2006. 61 manuscript pages).

Review Articles

(Note: Reprints are available at: <http://www.envisci.ucr.edu/faculty/sickman/publist.html>)

1. #Bergamaschi, B., DiGiorgio, C., Fujii, R., Gartell, G., Harader, S., Losee, R., Sickman, J., Swift, T. 2008. Tracking organic matter in Delta drinking water. Science Action: News from the CALFED Science Program. 8p.

Technical Reports:

(Note: Reprints are available at: <http://www.envisci.ucr.edu/faculty/sickman/publist.html>)

9. *Heard, A.M., Starceovich, L.H., Sickman, J.O., Schweizer, D., Rose, M. 2007. Sierra Nevada Network - Lake Monitoring Protocol. U.S. Department of Interior. U.S. Department of Interior - National Park Service. 71p.

8. #Stevenson, R.J., Pinowska, A., Albertin, A., Sickman, J.O. 2007. Ecological condition of algae and nutrients in Florida springs: The Synthesis Report. Florida Department of Environmental Protection. 58p.

7. Sickman, J.O., D. Gonzalez and S. San Julian. 2005. Real-time monitoring of organic carbon in the Sacramento River and California State Water Project Using Process Analyzers. Departmental of Water Resources Technical Memo, Office of Water Quality. 50p.

6. #Jellison R.J., D.R. Dawson and Sickman, J.O. 2003. Arsenic sources and the feasibility of using nitrogen isotopes to determine nitrogen sources to Crowley Lake, California. Final Report, State Water Resources Control Board, September 1, 2003.

5. #Stoddard, J.L. and Sickman, J.O. 2002. Episodic Acidification of Lakes in the Sierra Nevada. Final Report, California Air Resources Board contract A132-048. 138 pages.

4. #California Department of Water Resources, Water Quality Assessment Branch. 2001. Sanitary Survey of the State Water Project. Sacramento, California.

3. Sickman, J.O. 2001. Comparative analyses of nitrogen biogeochemistry in high-elevation ecosystems of the Sierra Nevada and Rocky Mountains. Ph.D. Dissertation, University of California, Santa Barbara. 350 pages.

2. Sickman, J.O., J.M. Melack, and A. Leydecker. 1998. Chapters 1 through 3 in: Comparative analyses of high-altitude lakes and catchments in the Sierra Nevada: susceptibility to acidification. Final Report, California Air Resources Board contract A032-188. 615 pages.

1. #Melack, J. M. and J.O. Sickman. 1997. Monitoring of wet deposition in alpine areas of the Sierra Nevada. Final Report, California Air Resources Board contract A932-081. 198 pages.

Professional Presentations and Published Abstracts (Since 1995)

Sickman, J.O., and C. DiGiorgio. Effects of Urbanization on Nitrogen and Phosphorus Loads in the Sacramento River. 2008 CALFED Science Conference, Sacramento, California. Presenter.

Melack, J.M., R. Jellison and J.O. Sickman. Ecological Responses to Three Decades of Climate Variability in Sierra Nevada Lakes. Chapman Conference: Lakes and Reservoirs as Sentinels, Integrators, and Regulators of Climate Change, 8-10 September 2008, Lake Tahoe, California. Co-author. Co-author.

Albertin, A., J.O. Sickman, A. Pinowska and R.J. Stevenson. Stable isotope compositions of macroalgae, sediments and nitrate in Florida springs. Summer Meeting 2008, American Society of Limnology and Oceanography, St Johns, 8-12 June, 2008, Newfoundland. Co-author.

Sickman, J.O., M. Zanoli and H. Mann. Effects of Urbanization on Organic Carbon Loads in the Sacramento River, California. Fall meeting of the American Geophysical Union. December 10-14, 2008, San Francisco, California. Presenter.

Von Kiparski, G., J.O. Sickman, E.A.G. Schuur, J. Vogel, D. Lucero and K. Crummer. Using radiocarbon to detect the loss of old soil carbon in hydrologic fluxes from permafrost. Fall meeting of the American Geophysical Union. December 10-14, 2008, San Francisco, California. Co-author.

Schuur, E.A.G., J. Vogel, K. Crummer, H. Lee, J.O. Sickman and K. Dutta. The Contribution of Old Carbon to Respiration from Alaskan Tundra Following Permafrost Thaw. Fall meeting of the American Geophysical Union. December 10-14, 2008, San Francisco, California. Co-Author.

Vogel, J. E.A.G. Schuur, J.O. Sickman, H. Lee and C. Trucco. The Degree of Permafrost Thawing Determines Arctic Tundra Carbon Balance. Fall meeting of the American Geophysical Union. December 10-14, 2008, San Francisco, California. Co-Author.

Grunwald, S., G.M. Vasques, G.L. Bruland, C.M. Bliss, N.B. Comerford, D.A. Graetz, and J.O. Sickman. Integration of a carbon, nitrogen and phosphorus into a spatially-explicit landscape model using geostatistical methods. Soil Science Society of America Meeting, November 4-7, 2007, New Orleans Louisiana. Co-author.

Vasques, G.M., S. Grunwald, J.O. Sickman and N.B. Comerford. Assessment of dynamic soil carbon pools at the watershed scale using regression kriging. Soil Science Society of America Meeting, November 4-7, 2007, New Orleans Louisiana. Co-author.

Vasques, G.M., S. Grunwald and J.O. Sickman. Assessment of dynamic soil carbon pools using visible/near-infrared diffuse reflectance spectroscopy (VNIRS) and various multivariate methods. Soil Science Society of America Meeting, November 4-7, 2007, New Orleans Louisiana. Co-author.

Grunwald, S., G.M. Vasques, G.L. Bruland, C.M. Bliss, N.B. Comerford, D.A. Graetz, and J.O. Sickman. Hybrid geostatistical modeling of soil carbon, nitrogen and phosphorus within a large Florida watershed. TIES conference - International Environmetrics Society, August 16-20, 2007, Czech Republic. Co-author.

Pinowska, A., R.J. Stevenson, A. Albertin and J.O. Sickman. 30th Congress of the International Association of Theoretical and Applied Limnology, August 12-18, 2007, Montreal, Canada. Co-author.

- Sickman, J.O., N.P. Molotch, T. Meixner, M. Williams and T. Painter. Estimating Stream Chemistry During the Snowmelt Pulse Using Remotely Sensed Snow Observations and a Coupled Snowmelt and Biogeochemical Modeling Approach. Fall meeting of the American Geophysical Union. December 11-15, 2006, San Francisco, California. Presenter.
- Martin, M.M., J.O. Sickman and P. Tipping. Exotic plant invasion alters soil microbial population dynamics. Ecological Society of America, Ecology in an Era of Globalization, January 8–12, 2006, Merida, Mexico. Co-author.
- Nelson, C.R., C.A. Carlson, J.O. Sickman and J.M. Melack. Community composition and metabolism of high-elevation bacterioplankton linked to catchment inputs, landscape position and seasonal limnological transitions. American Society of Limnology, Summer Meeting, June 4-9, 2006, Victoria, British Columbia. Co-author.
- Sickman, J.O., T. Whitmore, M. Brenner, A. Esperanza, L. Tarnay, D. Lucero and D. Clow. Atmospheric Nitrogen Deposition and Aquatic Ecosystems of the Western United States: Paleolimnological Approaches to Determining Critical Loads. National Atmospheric Deposition Program 29th Annual Technical Meeting, October 24-26, 2006, Norfolk, Virginia. Presenter.
- Sickman, J.O., C. DiGiorgio, M. Lee Davisson and D. Lucero. Estimating External Sources and Rates of Internal Cycling of DOM Using Radiocarbon in the San Joaquin-Sacramento Delta. Fall meeting of the American Geophysical Union. December 5-9, 2005, San Francisco, California. Presenter.
- MacIntyre, S.; Sickman, J.O.; Goldthwait, S.A.; Kling, G.W.; Caceres, C.E.; Hall, S.R.; Duffy, M.A.; Tessier, A.J. Consequences of turbulence at interfaces. American Society of Limnology and Oceanography meeting. Salt Lake City, Utah, February 20-25, 2005. Co-author.
- Sickman, J.O., D.W. Clow and J.M. Melack. A comparison of the relative trophic status of high-elevation lakes of the western United States. Symposium on Nitrogen Eutrophication in Xeric Wildland and Agricultural Systems. University of California, Riverside, January 19-21, 2005. Invited. Presenter.
- Bales, R., J. Dozier, J. Famiglietti, G. Fogg, J. Hopmans, T. Meixner, N. Molotch, K. Redmond, R. Rice, J. Sickman, and J. Warwick. Plan for a Sierra Nevada Hydrologic Observatory. Science aims, measurement priorities, research opportunities and expected Impacts. Fall meeting of the American Geophysical Union. December 13-17 2004, San Francisco, California. Co-author.
- Sickman, J.O., C. DiGiorgio and M. Lee Davisson. Resolving sources of dissolved organic matter in the Sacramento-San Joaquin Delta by radiocarbon dating. Third Biennial CALFED Science Conference, Sacramento California, October 4–6, 2004. Presenter.
- Sickman, J.O., C. DiGiorgio and M. Lee Davisson. Resolving aquatic and terrestrial sources of dissolved organic matter in the Sacramento-San Joaquin Delta by radiocarbon dating. Geological Society of America, North-Central Section, St. Louis, Missouri April 1–2, 2004. Presenter.
- Sickman, J.O., A.E. Miller, J.M. Melack, J.P. Schimel and T. Meixner. Nitrogen dynamics along the western slope of the Sierra Nevada, California. Fall Meeting of the American Geophysical Union, San Francisco, California, December 8-12, 2003.
- Miller, A.E., J.P. Schimel, J.M. Melack and J.O. Sickman. Episodic rewetting enhances carbon and nitrogen release from chaparral soil. 88th Ecological Society of America Annual Meeting, Savannah, Georgia, August 3-8, 2003. Co-author.

- Miller, A.E., J.P. Schimel, J.M. Melack and J.O. Sickman. Soil nitrogen dynamics in response to fall rewetting: why are chaparral communities leaky with respect to N. Ninth Biennial Conference, Soil Ecology Society, Palm Springs, California, May 11-14, 2003. Co-author.
- Sickman, J.O., S. San Julian, D. Gonzalez and B. Montoya. Real-time monitoring of organic carbon in the Sacramento-San Joaquin Delta. Fall Meeting of the American Geophysical Union, San Francisco, California, December 6-10, 2002. Presenter.
- Sickman, J.O., J.M. Melack and D.W. Clow. Long-term changes in lake nutrient and trophic status in the Sierra Nevada: Results from synoptic surveys and intensive monitoring of Emerald Lake, California. American Society of Limnology and Oceanography. Victoria, British Columbia, June 2002. Presenter.
- MacIntyre, S., G. Kling, G.W. Kipphut, J. Hobbie, J.O. Sickman and S. Goldthwait. Impacts of spring runoff and storm inflows on arctic lake productivity. American Society of Limnology and Oceanography. Victoria, British Columbia, June 2002. Co-author.
- Moraska, B.M., Nydick, K. R., Baron, J.O., Sickman, J.O. and B. M. Johnson. 2001. Sensitivity of western mountain lake biology to N deposition. Ecological Society of America Meeting. Madison, Wisconsin, August 2001. Co-author.
- Sickman, J.O., J.M. Melack and J.S. Stoddard. 2000. Regional analysis of inorganic nitrogen yield and retention in high-elevation ecosystems of the Sierra Nevada and Rocky Mountains. Winter meeting of the American Geophysical Union, San Francisco CA., December 2000. Presenter.
- Leydecker, A. J.O. Sickman and J.M. Melack. A simple regression model for predicting episodic acidification at alpine lakes in the Sierra Nevada, California. Winter meeting of the American Geophysical Union, San Francisco CA., December 2000. Co-author.
- Kramer-Huth, A., A. Leydecker, J.O. Sickman and R.C. Bales. A two-component hydrograph separation in three alpine basins of the Sierra Nevada, California. Winter meeting of the American Geophysical Union, San Francisco CA, December 2000. Co-author.
- Sickman, J.O. and A. Leydecker. 1999. Distribution of snow in the upper Kaweah River Basin, California. Winter meeting of the American Geophysical Union, San Francisco CA, December 1999. Presenter.
- Leydecker, A., J.O. Sickman and J.M. Melack. 1999. The control of outflow silica and base cation concentrations at Emerald Lake, California. Winter meeting of the American Geophysical Union, San Francisco CA., December 1999. Co-author.
- Sickman, J.O., Chang, C.C.Y., C. Kendall and J.M. Melack. 1999. Determination of nitrate sources in catchments during snowmelt using oxygen and nitrogen isotopes of nitrate; Sierra Nevada, California. Spring meeting of the American Society of Limnology and Oceanography, Santa Fe NM, February 1999. Presenter.
- Leydecker, A., J.O. Sickman and J.M. Melack. 1997. Episodic lake acidification in the Sierra Nevada, California. Winter meeting of the American Geophysical Union, San Francisco CA, December 1997. Co-author.

Sickman, J.O., A. Leydecker, and J.M. Melack. 1996. Annual water-balance and hydrologic characteristics of snowfall dominated catchments in the Sierra Nevada. Winter meeting of the American Geophysical Union, San Francisco CA, December 1996. Presenter.

Sickman, J.O., A. Leydecker, and J.M. Melack. 1995. Comparative analysis of water and solute balances for high-elevation catchments of the Sierra Nevada, California. Winter meeting of the American Geophysical Union, San Francisco CA., December 1995. Presenter.

Professional Activities:

Invited Speaker: University of California, Davis, Department of Hydrologic Sciences Seminar Series, *Applications of Radiocarbon in Environmental Sciences*. May 7, 2008. Davis, California.

Invited Speaker: University of California, Los Angeles, Civil and Environmental Engineering Seminar Series, *Applications of Radiocarbon in Environmental Sciences*. February 5, 2008. Los Angeles, California.

Inland Empire WATERKEEPER, Technical Advisory Committee. 2007-2008 quality assurance project plan (QAPP) for sampling of forest creeks in the Cleveland National Forest. (Meeting throughout 2007-2008 in Riverside, California).

Delta Regional Ecosystem Restoration Implementation Plan (DRERIP), Conceptual Model Review Team. May 23-25 and June 12-14, 2007. Sacramento California.

National Park Service, Inventory and Monitoring Program, Sierra Nevada Network Parks. Technical Advisory Committee meeting. March 2, 2007, Fresno, California.

Attendee: Grant Writer's Seminars and Workshop (Grant Central Station). December 12, 2005. Gainesville, Florida

Attendee: NSF Sponsored Workshop, "Frontiers in Exploration of the Critical Zone", University of Delaware – Newark, Delaware, October 24-26, 2005.

Invited Speaker: St Johns Water Management District Monthly Seminar Series. *Riverine organic matter*. January 13, 2005. Palatka, Florida.

Attendee: CUASHI National Workshop, Hydrologic Observatories as a Community Resource. August 24-25, 2004, Logan, Utah.

Attendee: Suwannee River Basin and Estuary Integrated Science Workshop. September 22-24, 2004, Cedar Key, Florida.

Invited Speaker: Tulane University, Department of Earth and Environmental Sciences. *Nitrogen dynamics along the western slope of the Sierra Nevada, California*. March 19, 2004.

Invitee: National Park Service Scoping Meeting, Water Resources Research in Sequoia National Park. November 18, 2003, Three Rivers, California.

Invited Speaker: H.J. Andrews Experimental Forest Fifth Annual Symposium on Carbon, Nitrogen, and Water Interactions in Forested Ecosystems. *The Role of Seasonal Transitions in N Dynamics of Montane Catchments*. University of Oregon, Corvallis Oregon, October 16, 2003.

Convener: Biogeoscience Special Session: Biogeochemical Cycling of Carbon, Nitrogen, and Heavy Metals: Implications for Ecosystem Restoration and Global Cycles, Fall Meeting of the American Geophysical Union, December 6-10, 2002, San Francisco, California.

Field-trip Organizer: Tour of wetlands and water conveyance projects in the Sacramento-San Joaquin Delta, Fall Meeting of the American Geophysical Union, December 11, 2002, San Francisco, California.

Invited Speaker: University of California, Riverside, Department of Environmental Sciences. *Nutrient Dynamics in the Sierra Nevada: Underlying Mechanisms, Climatic Sensitivity and Long-term Trends in Lake Chemistry*. May 16, 2002.

Invitee: United States Forest Service scoping meeting, Surface water monitoring in Southern California Wilderness Areas. May 17, 2002 Riverside, California.

Invitee: United States Forest Service scoping meeting, Lake Monitoring Program for Sierra Nevada Wilderness Areas. March 13, 2001, Sacramento California.

Invitee: United States Forest Service scoping meeting, Water Quality Monitoring Program for Sierra Nevada Wilderness Lakes. March 29-31, 2000, Clovis California.

Convener: Environmental Geochemistry Session, Fall Meeting of the American Geophysical Union, December 13-17, 1999, San Francisco, California.

Invitee: National Park Service, Watershed Ecosystem Research meeting. April 6-10, 1998, Sequoia and Kings Canyon National Parks.

Consulting

2007 – present: National Park Service, Inventory and Monitoring Program, Denali National Park. Permafrost monitoring program: Design and implementation.

2004 – present: National Park Service, Inventory and Monitoring Program, Sierra Network Parks. Lake monitoring program: Design and implementation.

2004 – present: California State Water Contractors, Sacramento-San Joaquin Delta organic matter issues and drinking water quality research.

University Teaching and Service***Courses Taught (career)***

- 2008 – Winter Quarter: Instructor. Physical Hydrology (ENSC 163). Department of Environmental Sciences, University of California, Riverside.
- 2008 – Winter Quarter: Instructor. Seminar in Soil and Water Science (ENSC 250). Department of Environmental Sciences, University of California, Riverside.
- 2007 – Fall Quarter: Instructor. Isotopes in Ecology and Environmental Sciences (ENSC 218). Department of Environmental Sciences, University of California, Riverside.
- 2007 – Winter Quarter: Instructor. Physical Hydrology (ENSC 163). Department of Environmental Sciences, University of California, Riverside.
- 2007 – Winter Quarter: Instructor. Seminar in Soil and Water Science (ENSC 250). Department of Environmental Sciences, University of California, Riverside.
- 2006 – Fall Semester: Instructor. Environmental Biogeochemistry – Global Change (SOS 4223). Soil and Water Science Department, University of Florida.
- 2006 – Fall Semester: Instructor. Current Topics in Terrestrial and Aquatic Biogeochemistry (SOS 6932). Soil and Water Science Department, University of Florida.
- 2006 – Spring Semester: Instructor. Advanced Biogeochemistry – Earth System Science and Environmental Service of Soils and Sediment (SOS 6456). Soil and Water Science Department, University of Florida.
- 2006 – Spring Semester: Instructor. Isotope Methods and Applications in Environmental Science (SOS 6932). Soil and Water Science Department, University of Florida.
- 2005 – Fall Semester: Instructor. Environmental Biogeochemistry – Global Change (SOS 4223). Soil and Water Science Department, University of Florida.
- 2005 – Fall Semester: Instructor. Current Topics in Terrestrial and Aquatic Biogeochemistry (SOS 6932). Soil and Water Science Department, University of Florida.
- 2005 – Spring Semester: Instructor. Advanced Biogeochemistry – Earth Science and Environmental Service of Soils and Sediment (SOS 6456). Soil and Water Science Department, University of Florida.
- 2004 – Spring Semester: Instructor. Introduction to Law and Regulatory Institutions (ESP 2600), Environmental Science and Policy, Department of Geology and Geophysics, University of New Orleans.
- 1997 – Fall Quarter: Instructor. Laboratory and field course in aquatic ecology and limnology (EEMB 145AL), Department of Ecology, Evolution and Marine Biology, University of California, Santa Barbara.
- 1996 – Fall Quarter: Instructor. Laboratory and field course in aquatic ecology and limnology (EEMB 145AL), Department of Ecology, Evolution and Marine Biology, University of California, Santa Barbara.

Campus Service (UC Riverside only)

2007 – present: Director, Facility for Isotope Ratio Mass Spectrometry, University of California, Riverside.

Departmental Service (UC Riverside only)

2007 – 2008: Member, webpage development committee

2007 - 2008: Member, equipment committee

2007 - present: Chair, social committee

2008 – present: Member, ESGP Admission Committee, Soil and Water Sciences graduate track

Supervision of Graduate StudentsUniversity of Florida (2004 - present)

Major Professor: Melissa M. Martin, MS, degree completed June 2006

Major Professor: Martin Anderson, MS degree completed June 2007

Major Professor: Andrea Albertin, Ph.D, degree expected completion June 2009

Ph.D Dissertation Committee Member: Hanna Lee

Ph.D Dissertation Committee Member: Fay Belsch

University of California, Riverside (2007 – present)

Major Professor: William Vicars, Ph.D, degree expected in June 2011

Major Professor: Peter Homyak, Ph.D, degree expected in June 2011

Major Professor: Andrea Heard, Ph.D, degree expected in June 2012

MS Thesis Committee: Brandi Reese, degree completed June 2007

MS Thesis Committee: Rebecca Lawson, degree completed June 2007

MS Thesis Committee: Barbara Barry, degree expected in June 2009

MS Thesis Committee: Yangying Bai, degree expected in June 2009

Ph.D Dissertation Committee Member: Mike Bell, degree expected in 2012

Ph.D Dissertation Committee Member: Nicole Reid, degree expected in 2011

Ph.D Dissertation Committee Member: Daniel Leonard, degree expected in 2011

Reviewer Activities***Manuscripts***

07/2008 - 08/2008	Soil Sci. Soc. Am. Journal. 1 Manuscript Reviewed.
06/2008 - 07/2008	Environmental Science and Technology. 1 Manuscript Reviewed.
02/2008 - 02/2008	United States Geological Survey. 1 Manuscript Reviewed.
01/2007 - 09/2007	Biogeochemistry. 1 Manuscript Reviewed.
01/2007 - 09/2007	Journal of Paleolimnology. 1 Manuscript Reviewed.
01/2006 - 12/2006	Biogeochemistry. 3 Manuscripts Reviewed.
01/2006 - 12/2006	New Zealand J. of Marine and Freshwater Research. 1 Manuscript Reviewed.
01/2006 - 12/2006	Limnology and Oceanography. 1 Manuscripts Reviewed.
01/2005 - 12/2005	Water Resources Research. 1 Manuscript Reviewed.
01/2005 - 12/2005	European Journal of Soil Science. 1 Manuscript Reviewed.
01/2005 - 12/2005	Biogeochemistry. 4 Manuscripts Reviewed.
01/2004 - 12/2004	Biogeochemistry. 3 Manuscripts Reviewed.
01/2003 - 12/2003	Water Resources Research, Biogeochemistry. 5 Manuscripts Reviewed.
01/2002 - 12/2002	Limnology and Oceanography, Biogeochemistry, Water Resources Research. 5 Manuscripts Reviewed.
01/2001 - 12/2001	Limnology and Oceanography, Water Resources Research, Biogeochemistry, Journal of Hydrology. 8 Manuscripts Reviewed.

01/2000 - 12/2000 Water Resources Research, Biogeochemistry. 2 Manuscripts Reviewed.
01/1999 - 12/1999 Biogeochemistry, Hydrologic Processes. 2 Manuscripts Reviewed.
01/1998 - 12/1998 Biogeochemistry. 1 Manuscript Reviewed.
01/1997 - 12/1997 Journal of Hydrology. 1 Manuscript Reviewed.

Grant Proposals

04/2008 - 04/2008 National Science Foundation. 1 Grant Reviewed.
03/2008 - 03/2008 National Science Foundation. 1 Grant Reviewed.
01/2007 - 12/2007 National Science Foundation. 2 Grant Reviewed.
01/2007 - 12/2007 National Science Foundation. 1 Grant Reviewed.
01/2006 - 12/2006 National Science Foundation. 1 Grant Reviewed.
01/2006 - 12/2006 National Science Foundation. 1 Grant Reviewed.
01/2006 - 12/2006 United States Department of Agriculture. 1 Grant Reviewed.
01/2006 - 12/2006 International Science and Technology Center. 1 Grant Reviewed.
01/2005 - 12/2005 National Science Foundation. 1 Grant Reviewed.
01/2005 - 12/2005 University of Florida, CLAS. 2 Grants Reviewed.
01/2004 - 12/2004 National Science Foundation. 2 Grants Reviewed.
01/2004 - 12/2004 Louisiana CREST. 1 Grant Reviewed.
01/2002 - 12/2002 National Science Foundation. 2 Grants Reviewed.
01/2001 - 12/2001 National Science Foundation. 1 Grant Reviewed.

Research Grants and Contracts***Past Funded (Career)***

CALFED Bay-Delta Program - – 2003 Proposition 50 PSP. “Real-time monitoring of bromide, nitrate and phosphate in the State Water Project and San Joaquin River”. **Co-Investigator** with Santa Clara Water Agency, Contra Costa Water Agency, Metropolitan Water District, and California Department of Water Resources, **\$244,070**; awarded August 2003.

Louisiana Board of Regents Support Fund – 2004, Instrumentation Enhancement. “An Ion Chromatograph System for Earth and Environmental Science and Teaching”. **Co-Principal Investigator** with R. Stoessell PI UNO) and E. Reyes (UNO), **\$38,124** awarded 4/15/2004.

University of Florida, School of Natural Resources and Environment – 2004 Seed Funding Grants. “Quantifying Dissolved Organic Matter Sources to Surface Waters in the St. Johns River Basin Using Radiocarbon Dating”. **Principal Investigator**. **\$ 23,200**. 12/15/2004 through 6/30/2005.

National Science Foundation - DEB. “Microbial and Hydrological Controls on Nitrogen Losses from Alpine and Chaparral Ecosystems During Seasonal Transitions”. Co-Principal Investigator with J.M. Melack and J.P. Schimel (UC Santa Barbara), **\$795,190**; 09/01 2001 through 5/31/2006.

CALFED Bay-Delta Program - Drinking Water Quality Program. "Determining the Contribution of Delta Island Peat to Carbon Loads in the State Water Project Using AMS Carbon-Dating and Stable Isotope Characteristics". **Principal Investigator**. **\$396,088**; 1/01/ 2002 through 5/31/2006.

National Science Foundation – 2004 Major Research Instrumentation (MRI) RFP. “An Isotope Ratio Mass Spectrometer System for Biogeosciences Research and Teaching: A Collaborative Proposal Between the University of New Orleans and Tulane University”. **Principal Investigator** with W. Simmons (PI UNO), F. Marcantonio (Tulane), T. Bianchi, (Tulane) J. Turner (UNO) and J. Chambers (Tulane), **\$183,794**. 9/1/2004 through 8/30/2008.

Florida Department of Environmental Protection – “Regulation of Microalgal Growth and Accrual by Nutrients in Florida Springs”. **Co-Principal Investigator** with R.J. Stevenson (PI Michigan State). **\$93,092**. 1/1/2005 through 6/30/2006.

Florida Department of Environmental Protection – “Integrated Interpretation of Survey and Experimental Approaches for Determining Nutrient Thresholds for Macroalgae in Florida Springs”. **Co-Principal Investigator** with R.J. Stevenson (PI Michigan State). **\$96,216**. 7/1/2006 through 12/15/2007. (*Grant funds remained at University of Florida*).

St. Johns River Water Management District. “Assessment of Water Quality Impacts Resulting from Development-Driven Changes in Aquatic Organic Matter Composition. Phase I: Methods Evaluation.” **Principal Investigator** with K. Sharma, T. Osborne and T. Schuur (University of Florida). **\$142,000** 7/1/2005 through 9/30/2007. (*\$23,615 at UCR via Sales and Service Contract to Sickman, balance at University of Florida*).

Cooperative Ecosystem Studies Unit (CESU). “Linking Experimental and Soil Spectral Sensing for Prediction of Soil Carbon Pools and Carbon Sequestration at the Landscape Scale”. **Co-Principal Investigator** with S. Grunwald (University of Florida). **\$168,000**. 9/1/2005 through 8/30/2007. (*Grant funds remained at University of Florida*).

Metropolitan Water District of Southern California. “Assessment and control of quagga mussels: Preliminary studies for Lake Skinner and Lake Mathews. **Co-Principal Investigator** with M. Anderson (UC Riverside). **\$24,000**. 3/1/2008 through 6/30/2008.

Active (UC Riverside)

National Science Foundation – DEB. “The Carbon Balance of Arctic Tundra in Response to Permafrost Melting: Using Radiocarbon to Detect the Loss of Old Soil Carbon”. **Co-Principal Investigator** with T. Schuur (PI University of Florida). **\$549,213**. 9/1/2005 through 3/31/2009 (no cost extension). (*Remaining Sickman funds of \$52,471 moved to UCR*).

National Park Service – FY 2006 Service-wide Comprehensive Call (Air Quality - Ecological Effects). “Using Paleo-Reconstructions of Lake Trophic Conditions to Establish Critical Loads for Atmospheric Nitrogen Deposition in Montane Regions of the Sierra Nevada”. **Principal Investigator** with T. Whitmore (University of Southern Florida), M. Brenner (University of Florida) and L. Tarnay and A. Esperanza (National Park Service). **\$98,745**. 12/1/2006 through 11/30/2010. (*All funds at UCR*).

National Science Foundation – Long-term Research in Environmental Biology (LTREB). “Responses of high elevation, aquatic ecosystems to interannual climate variability and trends in nutrient inputs (LTREB Program)”. **Co-Principal Investigator** with J. Melack (PI UC Santa Barbara). **\$448,667**. 3/1/2007 through 2/27/2012. (*Sickman share at UCR: \$96,920*).

United States Forest Service – Intermountain Region, Region 4. “A paleolimnological investigation of Moat Lakes, Hoover Wilderness, California”. **Principal Investigator** with T. Whitmore (co-PI University of Southern Florida). **\$19,855**. 8/1/2007 through 12/30/2009. (*All funds at UCR*).

National Science Foundation - Earth Sciences-Hydrology. “Collaborative Research: Snowpack Energy and Mass Balance: Implications for Biogeochemical Feedbacks in Alpine Basins”. **Principal Investigator** with N. Molotch, T. Meixner and M. Williams. **\$351,567** (*Sickman share: \$47,408*). 12/1/2007 through 11/30/2010.

University of California Center for Water Resources. “The contribution of urban tailwater to West Nile Virus outbreaks along the wildland urban interface”. **Co-Principal Investigator** with T. Scott and W. Walton (both at UC Riverside). **\$25,820**. 7/1/2008 through 6/30/2009. (*All funds at UCR*).

Metropolitan Water District of Southern California. “Managing Quagga Mussels in the Reservoirs of the Colorado River”. **Co-Principal Investigator** with M. Anderson (UC Riverside). **\$225,000**. 7/1/2008 through 6/30/2010. (*All funds at UCR*).

California Cooperative Ecosystems Study Unit, National Park Service. “Nutrient addition experiments to identify nutrient criteria for high elevation lakes of the Sierra Nevada”. **Principal Investigator**. **\$20,000**. 9/1/2008 through 7/31/2010. (*All funds at UCR*).

California Cooperative Ecosystems Study Unit, National Park Service. “Sierra Nevada Network Lake Monitoring-Water Chemistry Analyses”. **Principal Investigator**. **\$19,526**. 9/15/2008 through 7/31/2010. (*All funds at UCR*).

Pending

California Cooperative Ecosystems Study Unit, National Park Service. “Alien Invasion: Effects of Atmospheric Nitrogen Deposition on Sagebrush Steppe Vegetation Dynamics at Upper Columbia Basin Network Parks”. **Co-Principal Investigator** with E. Allen (UC Riverside), D. Jenerette (UC Riverside) and M Fenn (USDA – Forest Service). **\$100,000**. 7/1/2010 through 6/30/2013. (*All funds at UCR*).

California Department of Water Resources. “Technical evaluation of species conservation habitat at the Salton Sea”. **Co-Principal Investigator** with M. Anderson, D. Schlenk, W. Walton, C. Amrhein (all co-PIs at UC Riverside). **\$500,000**. 12/1/2008 through 12/31/2009. (*All funds at UCR*).