

CURRICULUM VITAE

JASON B. FELLMAN
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Education

- 2008 *Ph.D. Biogeochemistry*
University of Alaska, Fairbanks, AK
- 2000 *M.S. Environmental Science*
Washington State University, Pullman, WA
- 1995 *B.S. Biology*
University of Scranton, Scranton, PA

Research Interests

Aquatic biogeochemistry, terrestrial-aquatic linkages, watershed-scale hydrology and impacts of glacial recession on aquatic ecosystems.

Relevant Professional Experience

- 11/13-present *Research Assistant Professor of Environmental Science*
University of Alaska Southeast, Alaska Coastal Rainforest Center
- 10/11-11/13 *Post-doctoral Fellow*
University of Alaska Southeast, Department of Environmental Science
- 2/09 – 10/11 *Post-doctoral Fellow*
University of Western Australia, Department of Plant Biology
- 9/05 – 12/08 *Graduate Teaching and Research Assistant*
University of Alaska Fairbanks, Institute of Arctic Biology
- 5/03 – 8/05 *Soils/Hydrologic Technician*
USDA Forest Service, Pacific Northwest Research Station

Fellowships and Research Grants

- 2016 Nagorski, S, **Fellman JB**, Hood E. Black carbon deposition onto the Juneau icefield. *Alaska EPSCoR seed grant*, \$43,300.
- 2015-2018 **Fellman JB**, Hood E, Bidlack A. Coastal margin carbon cycling in the Alaskan perhumid coastal temperate rainforest. *USDA Forest Service*, \$139,662.
- 2015-2018 Bidlack, A, **Fellman JB**, Hood E. Stream discharge and water balance of coastal Alaskan watersheds. *USDA Forest Service*, \$74,504.
- 2014-2015 Buma B, **Fellman JB**, Edwards RT, Hood E. Linking lidar and stream organic carbon export: Can aboveground biomass and landscape composition be used to predict the export and biogeochemistry of stream organic carbon. *Alaska NASA EPSCoR*. University of Alaska Fairbanks, \$30,000.

- 2013-2018 **Fellman JB**, Bidlack A, Hood E. Flux and fate of carbon in terrestrial and aquatic ecosystems at the ocean margin of the Alaskan perhumid coastal temperate rainforest. *USDA Forest Service*, \$119,977.
- 2010 Grierson P, Kendrick G, Grzegorz G, **Fellman JB**, Bowman D, Grice K, Waite A, Stock W, Froend R, Lavery P. A high-resolution isotope facility for low cost analysis of water, plant, and soil/sediment samples to understand environmental change. *Linkage Infrastructure, Equipment and Facilities*, Australian Research Council, \$440,000 (AUD).
- 2010 **Fellman JB**. Riverine export of organic matter from northwest Australia. *AINSE award*, Australian Nuclear Science and Technology Organization, \$3,520 (AUD).
- 2009 **Fellman JB**. Riverine export of organic matter from northwest Australia: is marine carbon of ancient origin? *Research Development Award*, Australian Research Council/University of Western Australia, \$18,200 (AUD).
- 2008 **Fellman JB**. *Student Travel Grant*, University of Alaska Fairbanks, Fairbanks, AK, \$600.
- 1999 **Fellman JB**. *Bill Lane Fellowship*, Washington State University, Pullman, WA, \$2000.
- 1994 **Fellman JB**. *Howard Hughes Undergraduate Research Grant*, University of Scranton, Scranton, PA, \$3000.

Peer Reviewed Publications

**denotes undergraduate student co-author*

- Fellman, J.B.**, B. Buma, E. Hood, R.T. Edwards and D. V. D'Amore. *In press*. Linking LIDAR with streamwater biogeochemistry in coastal temperate rainforest watersheds. *Canadian Journal of Fisheries and Aquatic Sciences*.
- Siebers, A.R., N.E. Pettit, G.D. Skrzypek, **J.B. Fellman**, S. Dogramaci, and P.F. Grierson. 2016. Alluvial ground water influences dissolved organic matter biogeochemistry of pools within intermittent dryland streams. *Freshwater Biology* 61:1228-1241.
- Fellman, J.B.**, E. Hood, P.A. Raymond, A. Stubbins and R.G.M. Spencer. 2015. Spatial variation in the origin of dissolved organic carbon in snow on the Juneau Icefield, Southeast Alaska. *Environmental Science and Technology* 49:11492-11499.
- Fellman, J.B.**, E. Hood, W. Dryer, and S. Pyare. 2015. Stream physical characteristics impact habitat quality for Pacific salmon in two temperate coastal watersheds. *PLOSOne* DOI:10.1371/journal.pone.0132652.
- D'Amore, D., R.T. Edwards, P. Herendeen, E. Hood, and **J.B. Fellman**. 2015. Dissolved organic carbon fluxes from hydrogeologic units in Alaskan coastal temperate rainforest watersheds. *Soil Science Society of America Journal* 79:378-388.
- Fellman, J.B.**, E. Hood, P. Raymond, J. Hudson, M. Bozeman, and M. Arimitsu. 2015. Evidence for the assimilation of glacier organic carbon in a proglacial stream food web. *Limnology and Oceanography* 60:118-128.
- Hood, E., T.J. Battin, **J.B. Fellman**, S. O'Neel, and R.G.M. Spencer. 2015. Storage and release of organic carbon from glaciers and ice sheets. *Nature Geoscience* 8:91-96.
- Burrows, R.M., R.H. Magierowski, **J.B. Fellman**, J.E. Clapcott, S.A. Munks, S. Roberts, P.E. Davies, and L.A. Barmuta. 2014. Variation in stream organic matter processing among years

- and benthic habitats in response to forest clearfelling. *Forest Ecology and Management* 327:136-147.
- Fellman, J.B.**, E. Hood, R.G.M. Spencer, A. Stubbins, and P.A. Raymond. 2014. Watershed glacier coverage influences dissolved organic matter biogeochemistry in coastal watersheds of southeast Alaska. *Ecosystems* 17:1014-1025.
- Fellman, J.B.**, S. Nagorski, S. Pyare, A.W. Vermilyea, D. Scott, and E. Hood. 2014. Stream temperature response to variable glacier coverage in coastal watersheds of Southeast Alaska. *Hydrological Processes* 28:2062-2073.
- Fellman, J.B.**, R.G.M. Spencer, P.A. Raymond, N.E. Pettit, G. Skrzypek, P.J. Hernes, and P.F. Grierson. 2014. Dissolved organic matter biolability decreases along with its modernization in fluvial networks in an ancient landscape. *Ecology* 95:2622-2632.
- Spencer, R.G.M., W. Guo, P.A. Raymond, T. Dittmar, E. Hood, **J.B. Fellman**, and A. Stubbins. 2014. Source and biolability of ancient dissolved organic matter in glacier and lake ecosystems on the Tibetan Plateau. *Geochimica et Cosmochimica Acta* 142:64-74.
- Spencer, R.G.M., A.W. Vermilyea, **J.B. Fellman**, P.A. Raymond, A. Stubbins, D. Scott, and E. Hood. 2014. Seasonal variability of organic matter composition in an Alaskan glacier outflow: insights into glacier carbon sources. *Environmental Research Letters* 9:055005-055012.
- Burrows, R.M., **J.B. Fellman**, R.H. Magierowski, and L.A. Barmuta. 2013. Allochthonous dissolved organic matter controls bacterial carbon production in old-growth and clearfelled headwater streams. *Freshwater Science* 32:821-836.
- Burrows, R.M., **J.B. Fellman**, R.H. Magierowski, and L.A. Barmuta. 2013. Greater phosphorus uptake in forested headwater streams modified by clearfell forestry. *Hydrobiologia* 703:1-14.
- Fellman, J.B.**, K.C. Petrone, and P.F. Grierson. 2013. Leaf litter age, chemical quality, and photodegradation control the fate of leachate dissolved organic matter in a dryland river. *Journal of Arid Environments* 89:30-37.
- Fellman, J.B.**, N.E. Pettit, J. Kalic*, and P.F. Grierson. 2013. Influence of stream–floodplain biogeochemical linkages on aquatic foodweb structure along a gradient of stream size in a tropical catchment. *Freshwater Science* 32:217-229.
- Burrows, R.M., J.H. Magierowski, **J.B. Fellman**, and L.A. Barmuta. 2012. Woody debris input and function in old-growth and clear-felled headwater streams. *Forest Ecology and Management* 286:273-280.
- Pettit, N.E., T. Davies*, **J.B. Fellman**, P.F. Grierson, D.M. Warfe, and P.M. Davies. 2012. Leaf litter chemistry, decomposition and assimilation by macroinvertebrates in two tropical streams. *Hydrobiologia* 680:63-77.
- Fellman, J.B.**, S. Dogramaci, G. Skrzypek, W. Dodson, and P.F. Grierson. 2011. Hydrologic control of dissolved organic matter biogeochemistry in pools of a subtropical dryland river. *Water Resources Research* 47, W06501, doi:10.1029/2010WR010275.
- Fellman, J.B.**, K.C. Petrone, and P.F. Grierson. 2011. Source, biogeochemical cycling and fluorescence characteristics of dissolved organic matter in an agro-urban estuary. *Limnology and Oceanography* 56:243-256.
- Petrone, K.C., **J.B. Fellman**, E. Hood, M.J. Donn, and P.F. Grierson. 2011. The origin and function of dissolved organic matter in agro-urban coastal streams. *Journal Geophysical Research* 116, G01028, doi:10.1029/2010JG001537.

- D'Amore, D.V., **J.B. Fellman**, R.T. Edwards, and E. Hood. 2010. Controls on dissolved organic matter production and export in a forested wetland and sloping bog in southeastern Alaska. *Ecohydrology* 3:249-261.
- Fellman J.B.**, E. Hood, and R.G.M. Spencer. 2010. Fluorescence spectroscopy opens new windows into dissolved organic matter dynamics in freshwater ecosystems: A review. *Limnology and Oceanography* 55:2452-2462.
- Fellman, J.B.**, R.G.M. Spencer, P.J. Hernes, R.T. Edwards, D.V. D'Amore, and E. Hood. 2010. The impact of glacier runoff on the biodegradability and biochemical composition of terrigenous dissolved organic matter in near-shore marine ecosystems. *Marine Chemistry* 121:112-122.
- Verseveld, W.J., E.S. Kane, D.J. Sobota, I.H. Myers-Smith, and **J. B. Fellman**. 2010. Reply to comment on 'Kane et al. 2008. Precipitation control over inorganic nitrogen import-export budgets across watersheds: a synthesis of long-term ecological research. *Ecohydrology* 3:370-372.
- Fellman, J.B.**, E.H. Franz, C.L. Crenshaw, and D.E. Elston. 2009. Global estimates of soil carbon sequestration via livestock waste: a STELLA simulation. *Environment Development & Sustainability* 11:871-885.
- Fellman, J.B.**, E. Hood, D.V. D'Amore, R.T. Edwards, and D. White. 2009. Seasonal changes in the chemical quality and biodegradability of dissolved organic matter exported from soils to streams in coastal temperate watersheds. *Biogeochemistry* 95:277-293.
- Fellman, J.B.**, E. Hood, R.T. Edwards, and J.B. Jones Jr. 2009. Uptake of allochthonous dissolved organic matter from soil and salmon in coastal temperate rainforest streams. *Ecosystems* 12:747-759.
- Fellman, J.B.**, E. Hood, R.T. Edwards, and D.V. D'Amore. 2009. Changes in the concentration, biodegradability and fluorescent properties of dissolved organic matter during stormflows in coastal temperate watersheds. *Journal Geophysical Research* 114:G01021, doi:10.1029/2008JG000790.
- Fellman, J.B.**, M.P. Miller, R.M. Cory, D.V. D'Amore, and D. White. 2009. Characterizing DOM using PARAFAC modeling of fluorescence excitation-emission spectroscopy: a comparison of two models. *Environmental Science & Technology* 43:6228-6234.
- Hood, E., **J.B. Fellman**, R.G.M. Spencer, R.T. Edwards, D.V. D'Amore, P.J. Hernes and D. Scott. 2009. Glacial runoff as a source of ancient, labile organic matter to the Gulf of Alaska. *Nature* 462:1044-1048.
- Fellman, J.B.**, D.V. D'Amore, E. Hood, and R.D. Boone. 2008. Fluorescence characteristics and biodegradability of dissolved organic matter in forest and wetland soils from coastal temperate watersheds in southeast Alaska. *Biogeochemistry* 88:169-184.
- Fellman, J.B.**, D.V. D'Amore, and E. Hood. 2008. An evaluation of freezing as a preservation technique for analyzing dissolved organic C, N and P in surface water samples. *Science of the Total Environment* 392:305-312.
- Fellman, J.B.**, E. Hood, R.T. Edwards, and D.V. D'Amore. 2008. Return of salmon-derived nutrients from the riparian zone to the stream during a storm in southeastern Alaska. *Ecosystems* 11:537-544.
- Kane, E.S., E.F. Betts, A.J. Burgin, H.M. Clilverd, C.L. Crenshaw, **J.B. Fellman**, I.H. Myers-Smith, J.A. O'Donnell, D.J. Sobota, W.J. Van Verseveld, and J.B. Jones Jr. 2008. Precipitation control over nitrogen import – export budgets across watersheds: a synthesis of Long-Term Ecological Research. *Ecohydrology* 1:105-117.

Fellman, J.B., and D.V. D'Amore. 2007. Nitrogen and phosphorus mineralization in three wetland types in southeast Alaska, USA. *Wetlands* 27:44-53.

Hood. E., **J.B. Fellman**, and R.T. Edwards. 2007. Salmon carbon, nitrogen and phosphorus contributions to a coastal stream in southeastern Alaska: An application of fluorescence spectroscopy. *Limnology and Oceanography* 52:1580-1587.

Book Chapters

D'Amore, D.V., **J.B. Fellman**, R.T. Edwards, and E. Hood. 2012. Hydropedology of the North American coastal temperate rainforest. In H. Lin (editor). *Hydropedology: Synergistic integration of pedology and hydrology*, Elsevier.

Teaching Experience

- Instructor, Earth and Environment Lab, University of Alaska Southeast, 2015-2016
- Co-instructor, General Ecology, University of Western Australia, 2010
- Co-instructor, Ecosystem Biogeochemistry, University of Western Australia, 2010
- Teaching assistant, undergraduate seminar in Environmental Science, University of Alaska Southeast, 2006-2007
- Teaching assistant, Hydrology Laboratory, University of Alaska Southeast, 2006
- Lead teaching assistant, General Biology Lab, Washington State University, 1998-2000

Graduate Advises

- Ryan Burrows, PhD, University of Tasmania, TA, Australia, 2009-2013
- Andre Siebers, PhD, University of Western Australia, WA, Australia, 2010-Present.

Synergistic Activities

Journal article reviewer

- Analytica Chimica Acta
- Biogeochemistry
- Biogeosciences
- Ecological Applications
- Environmental Science and Technology
- Freshwater Biology
- Geophysical Research Letters
- Global Change Biology
- Hydrobiologia
- Hydrological Processes
- Journal of Geophysical Research - Biogeosciences
- Limnology and Oceanography
- Marine Chemistry
- Nature Geoscience
- Science of the Total Environment
- Wetlands
- Water Resources Research

National Science Foundation Proposal Reviewer

- Arctic Systems Science
- Environmental Biology
- Geobiology and Low-Temperature Geochemistry
- Hydrological Sciences

Professional Societies

- American Geophysical Union
- Association for the Sciences of Limnology and Oceanography

Educational and Community

- Board member, *Juneau Watershed Partnership*, Juneau, AK 2012-2014
- Science Fair Judge, *Juneau/Douglas High School*, Juneau, AK, 2006-2008
- Board member, *St. Vincent De Paul Society's Recycling Program*, Juneau, AK, 2004-2005
- Naturalist, Juneau elementary schools, *Discovery Southeast*, Juneau, AK, 2003-2005
- Naturalist, *Society for the Protection of New Hampshire Forests*, Concord, NH, 1996-1997.
- Americorps Volunteer, *Southeast Alaska Guidance Association*, Juneau, AK, 1995-1996

Recent Presentations (last 3 years)

- Schroth A, Rosenberg BD, Nagorski S, Hood E, **Fellman JB** and Vermilyea A. Iron speciation and provenance control potential reactivity and impact on carbon and phosphorus cycling from catchments to receiving waters. *Association for the Sciences of Limnology and Oceanography Aquatic Sciences Summer Meeting*, Santa Fe, NM, June 5-10, 2016.
- Hood E, O'Neel S, **Fellman JB**, Bidlack A, Arendt A, Arimitsu M and Spencer RGM. Implications of glacier volume change for ice-ocean interactions. *American Geophysical Union Fall Meeting*, San Francisco, CA, December 14-18, 2015.
- Fellman JB, D'Amore DV and Hood E. Potential vulnerability of southeast Alaskan wetland soil carbon stocks to climate warming. *American Geophysical Union Fall Meeting*, San Francisco, CA, December 14-18, 2015 (poster).
- D'Amore DV, Edwards RT, Herendeen P, **Fellman JB** and Hood E. Hydrogeological hotspots for dissolved organic carbon loading to streams along the perhumid temperate rainforest coastal margin of Alaska. *American Geophysical Union Fall Meeting*, San Francisco, CA, December 14-18, 2015 (poster).
- Grierson P, Siebers A, Skrzypek G, **Fellman JB**, Pettit N, Dogramaci S. Dissolved organic matter dynamics in streams of intermittent flow - linkages with ecohydrologic processes from pool to catchment in northern Australia. *European Geosciences Union General Assembly*, Vienna, Austria, April 12-17, 2015.
- Spencer R, Stubbins A, **Fellman JB**, Dittmar T, Raymond P and Hood E. Storage, release and source of organic carbon in glacier environments. *Association for the Sciences of Limnology and Oceanography Aquatic Sciences Meeting*, Granada, Spain, February 22-27, 2015.
- Arimitsu M, Piatt J, Hobson K, Hood E, **Fellman JB**, Mueter F. Subsidy pathways from glacial melt water to Gulf of Alaska's coastal marine food webs. *Alaska Marine Science Symposium*, Anchorage, AK, January 19-23, 2015.

- Fellman JB**, Hood E, Raymond P, Stubbins A, Spencer R. Spatial variation in the source and composition of dissolved organic matter in snow across the Juneau Icefield. *American Geophysical Union Fall Meeting*, San Francisco, CA, December 15-19, 2014 (poster).
- Arimitsu M, Piatt J, Hobson K, Hood E, **Fellman JB**, Mueter F. Direct and indirect pathways of subsidies from glacial meltwater to coastal marine food webs. *American Water Resources Association Annual Meeting*, Tysons Corner, VA, November 3-6, 2014 (poster).
- Pyare, S, Hood E, Winfree M, Nichols E, Dryer W, Goldstein M, Ellison S, **Fellman JB**. Past, current & future stream temperatures in Southeast Alaska. *Climate, Conservation, and Community in Alaska and Northwest Canada conference*, Anchorage, Alaska, November 4 – 6, 2014.
- Whitehead A, **Fellman JB**, Hood E, Scott D. Potential photochemical and biological degradation of dissolved organic carbon in coastal watersheds of southeast Alaska. *American Water Resources Association – Alaska chapter/American Fisheries Society/Alaska chapter annual meeting*, Juneau, AK October 20-24, 2014 (poster).
- Fellman JB**, Hood E, Dryer P, Pyare S. Temporal variability in stream physical characteristics influences potential habitat suitability for Pacific salmon in two coastal watersheds of southeast Alaska. *American Water Resources Association – Alaska chapter/American Fisheries Society/Alaska chapter annual meeting*, Juneau, AK October 20-24, 2014.
- Spencer R, Weidong W, Raymond P, Dittmar T, Hood E, **Fellman JB**, Stubbins A. Source and bio-lability of ancient dissolved organic matter in glacier and lake ecosystems on the Tibetan Plateau. *Joint Aquatic Sciences Meeting*, Portland, OR, May 18-23, 2014.
- Siebers A, Pettit N, Skrzypek G, **Fellman JB**, Dogramaci S, Grierson P. Changing scales of hydrological control on dissolved organic matter composition in pools of intermittent streams. *European Geosciences Union General Assembly*, Vienna, Austria, April 27-May 2, 2014.
- Arimitsu M, Piatt J, Hobson K, Hood E, **Fellman JB**. Hydrogen and carbon isotopes trace glacier runoff through coastal marine food webs in the Gulf of Alaska. *Alaska Marine Science Symposium*, Anchorage, AK, January 20-24, 2014 (poster).
- Fellman JB**, Hood E, Raymond P, Bozeman M, Hudson J, Arimitsu M. Assimilation of aged organic carbon in a glacial river food web *American Geophysical Union Fall Meeting*, San Francisco, CA, September 9-13, 2013.
- Fellman JB**, Hood E, Stubbins A, Spencer R, Raymond P. Variable glacial coverage influences dissolved organic matter biogeochemistry in coastal watersheds of southeast Alaska. *Association for the Sciences of Limnology and Oceanography Aquatic Sciences Meeting*, New Orleans, LA, February 17-22, 2013.
- Vermilyea A, Hood E, Scott D, Stubbins A, Spencer R, Raymond P, Schroth A, **Fellman JB**. Alaskan glacier dichotomy: melt season dynamics of nutrients and mercury. *Association for the Sciences of Limnology and Oceanography Aquatic Sciences Meeting*, New Orleans, LA, February 17-22, 2013.
- Schroth A, Hood E, Vermilyea A, **Fellman JB**, Scott D. Time-Series Insights to Trace Metal Dynamics in Alaskan Catchments with Varying Degrees of Glaciation. *Association for the Sciences of Limnology and Oceanography Aquatic Sciences Meeting*, New Orleans, LA, February 17-22, 2013.