



LIFE SCIENCE NEWS

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Announcements

UAF celebrates 2016 with hopes of fresher air.
[Campus goes smoke and tobacco free](#) Dec. 31, 2015.
Smoking means inhaling, exhaling, burning, or carrying of any lighted or heated or vaporized tobacco-related product or non-tobacco plant product, or operating an electronic smoking or vaping device, instrument or apparatus which can be used to simulate the experience of smoking, or which can be used to house a liquid containing nicotine for delivery in any form to the user, including but not limited to hookahs, water pipes, e-cigarettes, e-cigars, e-pipes, and vape pens. [UAF tobacco and smoke-free policy](#).

[Faculty time off \(FTO\) guidelines](#). The UNAC CBA requires that 3 of the 15 days of FTO must be taken during the winter "hard closure," which are 28, 29, and 30 December. Per the UNAC collective bargaining agreement, represented faculty are provided 15 days of faculty time off (FTO) per fiscal year. The FTO associated with these dates or any other FTO taken between 12/27/15 - 1/9/16 must be reported on your R02 timesheet due January 11, 2016.

Please review the attached UNAC FTO guidelines that include instructions on how to enter your faculty time off using the UAOnline web time entry process. If you have any questions about how to report your FTO please call the IAB HR Office at ext. 2781 or ext. 6676 or email UAF-IAB-HR@alaska.edu.

There is a direct benefit to your grant(s) and to IAB Fund 1 when you (faculty) report your FTO and sick leave use. When reported, these hours are charged to a leave "pool" that is funded by the leave benefit

rate instead of directly to your grant(s) or IAB Fund 1. While the sick leave pool accrues from year to year, unused FTO days are lost at the end of each fiscal year on 30 June.

The IAB administrative team wishes all of you the best during this holiday season.

Your peer-reviewed publications sought. Please remember to send your peer-reviewed publications [here](#) as soon as you publish.

Biology Grad Student Association IAB Life Science Hour Sampler Seminar video now [online](#).

Former IAB professor Perry Barboza [named Boone and Crockett Chair](#) at Texas A&M University.

[International LTER Open Science Meeting](#). Oct. 2016, Kruger Nat'l Park, South Africa.

[IAB Life Science Hour seminars](#) will resume January 15, 2016. Previous seminar videos are online.

Events and Seminars

28 December 2015

- **Notice: UAF Holiday Closure**

29 December 2015

- **Notice: UAF Holiday Closure**

Life Science Hour Seminars in the Murie Auditorium, Fridays 3-4 p.m.
No seminar scheduled this week.

30 December 2015

- **Notice: UAF Holiday Closure**

31 December 2015

- **Notice: UAF Holiday Closure**

1 January 2016

- **Notice: UAF Holiday Closure**

Travel

- **Badger, Janelle**, 12/27/15 - 1/31/16, Halifax, Nova Scotia, Field work
- **Breed, Greg**, 12/10/15 - 1/15/16, Monterey, CA and San Francisco, CA, Attend at Marine Mammal Conference and collaborate at Hopkins Marine Station
- **Coker, Trey**, 1/3/16 - 1/9/16, Palm Springs, CA, Collaborate with colleague
- **Huetmann, Falk**, 12/25/15 - 1/14/16, Beijing, Taipeh and Nepal, Project meetings and Fieldwork
- **Larson, Don**, 1/2/16 - 1/7/16, Portland, OR, Present at SICB Annual Meeting
- **O'Brien, Kristin**, 1/2/16 - 1/10/16, Portland, OR, Invited Speaker at the Society for Integrative and Comparative Biology Conference
- **Sivy, Kelly**, 10/30/15 - 12/31/15, Delta Junction, AK, Field work at study sites in/around Delta Junction

Grants and Awards

Go to the IAB funding opportunities webpage, www.iab.uaf.edu/research/funding_opps.php, for the latest on available grants, scholarships, fellowships, and awards.

IAB in the News

12/26/15: Perham (MN) Focus
[Writers' conference emphasizes styles](#)
Ian Johnson

New IAB Publications

Legend: **f**=faculty, **r**=research scientist, **s**=staff, **e**=emeritus, **a**=affiliate, **g**=grad student, **p**=post-doc, **u**=undergrad student, **h**=high school student

Masson-Delmotte, Valerie, Swingedouw, Didier, Landais, Amaelle' Seidenkrantz, Marit-Solveig, Gauthier, Emilie, Bichet, Vincent, Massa, Charly, Perren, Bianca, Jomelli, Vincent, Adalgeirsdottir, Gudfinna, Christensen, Jens Hesselbjerg, Arneborg, Jette, Bhatt, Uma, **Walker, Donald A. (f)**, Elberling, Bo, Gillet-Chaulet, Fabien, Ritz, Catherine, Gallee, Hubert, van den Broeke, Michiel, Fettweis, Xavier, de Vernal, Anne, and Vinther, Bo (2012). Greenland climate change: from the past to the future. Wiley Interdisciplinary Reviews: Climate Change 3:427-449 [IAB 4142].

Blinnikov, M.S., Gaglioti, B.V., **Walker, D.A. (f)**, Wooller, M.J., and Zazula, G.D. (2011). Pleistocene graminoid-dominated ecosystems in the Arctic. Quaternary Science Reviews 30:2906-2929 [IAB 4143].

Walker, D.A. "Skip," (f) and Gill, Mike (2011). Terrestrial Ecosystems Summary in Arctic Report Card 2011. Arctic Report Card 2011 [IAB 4144].

Walker, D.A. (f), Bhatt, U.S., Callaghan, T.V., Comiso, J.C., Epstein, H.E., Forbes, B.C., Gill, M., Gould, W.A., Henry, G.H.R., Jia, G.J., Kokelj, S.V., Lantz, T.C., Oberbauer, S.F., Pinzon, J.E., **Raynolds, M.K. (r)**, **Shaver, G.R. (r)**, **Tucker, C.J. (p)**, Tweedie, C.E., and Webber, P.J. (2011). Vegetation in Arctic Report Card 2011. Arctic Report Card 2011 [IAB 4145].

Walker, D.A. (f), Kuss, P., Epstein, H.E., **Kade, A.N. (g)**, Vonlanthen, C.M., **Raynolds, M.K. (r)**, and Daniels, F.J.A. (2011). Vegetation of zonal patterned-ground ecosystems along the North America Arctic bioclimate gradient. Applied Vegetative Science 14:440-463 [IAB 4146].

Breen, Amy L., Murray, David F., **Raynolds, Martha K. (r)**, **Timling, Ina (r)**, and **Walker, Donald A. (f)** (2014). Chapter 7. Ecology and Evolution of Plants in Arctic and Alpine Environments. in Plant Ecology and Evolution in Harsh Environments: N. Rajakaruna, R. S. Boyd, and T. B. Harris, Eds. 149-178 [IAB 4147].

Walker, D.A. (f), Hamilton, T.D., Maier, H.A., Munger, C.A., and **Raynolds, M.K. (r)** (2014).

Glacial history and long-term ecology in the Toolik Lake region. in J. E. Hobbie and G. W. Kling, editors. Alaska's changing Arctic: Ecological consequences for tundra, streams, and lakes [IAB 4148].

Ims, R.A., Ehrich, D., Forbes, B.C., Huntley, B., **Walker, D.A. (f)**, Wookey, P.A., Berteaux, D., Bhatt, U.S., Brathen, K.A., Edwards, M.E., Epstein, H.E., Forchhammer, M.C., Fuglei, E., Gauthier, G., Gilbert, S., Leung, M., Menyushina, I.E., Ovsyanikov, N., Post, E., **Raynolds, M.K. (r)**, Reid, D.G., Schmidt, N.M., Stien, Audun, Sumina, O.I., and van der Wal, R. (2014). Terrestrial Ecosystems (Chapter 12). Arctic Biodiversity Assessment: Status and trends in Arctic biodiversity. Arctic Biodiversity Assessment: Conservation of Arctic Flora and Fauna (CAFF) 385-440 [IAB 4149].

Walker, D.A. (f), Forbes, B.C., Leibman, M.O., Epstein, H.E., Bhatt, U.S., Comiso, J.C., Drozdov, D.S., Gubarkov, A.A., Jia, G.J., Karlejaarvi, E., Kaplan, J.O., Khumutov, V., **Kofinas, G.P. (f)**, Kumpula, T., Kuss, P., Moskalenko, N.G., **Raynolds, M.K. (r)**, Romanovsky, V.E., Stammer, V.E., and Yu, Q. (2011). Cumulative effects of rapid land-cover and land-use changes on the Yamal Peninsula, Russia. in Gutman, G., and Reissel, A., eds., Eurasian Arctic Land Cover and Land Use in a Changing Climate 206-236 [IAB 4150].

Goetz, S.J., Epstein, H.E., Bhatt, U.S., Jia, G.J., Kaplan, J.O., Lishke, H., Yu, Q., Bunn, A., Lloyd, A., Alcaraz-Segura, D., Beck, P.S.A., Comiso, J.C., **Raynolds, M.K. (r)**, and **Walker, D.A. (f)** (2011). Recent Changes in Arctic Vegetation: Satellite Observations and Simulation Model Predictions. in: Eurasian Arctic Land Cover and Land Use 9 in a Changing Climate, [IAB 4151].

Jones, C.E., **Kielland, K. (f)**, Hinzman, L.D., and Schneider, W.S. (2015). Integrating local knowledge and science: economic consequences of driftwood harvest in a changing climate. Ecology and Society 20: [IAB 4152].

Montazeri, N., Himelbloom, B.H., Oliveira, A.C.M., **Leigh, M.B. (f)**, and Crapo, C.A. (2013). Refined liquid smoke: a potential antilisterial additive to cold-smoked sockeye salmon (*Oncorhynchus nerka*). Journal of Food Protection 76:812-819 [IAB 4153].

Uhlik, O., **Leewis, M.-C. (g)**, Strejcek, M., Musilova, L., Mackova, M., **Leigh, M.B. (f)**, and Macek, T. (2013). Stable isotope probing in the metagenomics era: a bridge towards improved bioremediation.

Biotechnology Advances 31:154-165 [IAB 4154].

He, R. (g), Wooller, M.J., Pohlman, J.W., Tiedje, J.M., and **Leigh, M.B. (f)** (2015). Methane-derived carbon flow through microbial communities in arctic lake sediments. Environmental Microbiology 17:3233-3250 [IAB 4155].

Stursova, M., Zifcakova, L., **Leigh, M.B. (f)**, Burgess, R., and Baldrian, P. (2012). Cellulose utilization in forest litter and soil: identification of bacterial and fungal decomposers. FEMS Microbiology Ecology 80:735-746 [IAB 4156].

Slater, H. (g), Gouin, T., and **Leigh, M.B. (f)** (2011). Assessing the potential for rhizoremediation of PCB contaminated soils in northern regions using native tree species. Chemosphere 84:199-206 [IAB 4157].

Leigh, M.B. (f), Katalenich, Krista, Hardy, Cynthia, and Kohler, Pia (2011). Climate Change and Creative Expression. in: North by 2020: Perspectives on Alaska's Changing Social-Ecological Systems [IAB 4158].

King, M., Catranis, C., Soria, J.A., and **Leigh, M.B. (f)** (2013). Phytochemical and toxicological analysis of Albizia falcata sawdust. International Wood Products Journal 4:232-241 [IAB 4159].

Collins, S.F., Marcarelli, A.M., Baxter, C.V., and **Wipfli, M.S. (f)** (2015). A Critical Assessment of the Ecological Assumptions Underpinning Compensatory Mitigation of Salmon-Derived Nutrients. 56:571-586 [IAB 4160].

Neuswanger, J.R. (g), **Wipfli, M.S. (f)**, Evenson, M.J., **Hughes, N.F. (g)**, and Rosenberger, A.E. (2015). Low productivity of Chinook salmon strongly correlates with high summer stream discharge in two Alaskan rivers in the Yukon drainage. Can. J. Fish. Aquat. Sci. 72:1125-1137 [IAB 4161].

Heim, K.C., **Wipfli, M.S. (f)**, Whitman, M.S., and Seitz, A.C. (2016). Body size and condition influence migration timing of juvenile Arctic grayling. Ecology of Freshwater Fish 25:156-166 [IAB 4162].

Marcarelli, A.M., Baxter, C.V., and **Wipfli, M.S. (f)** (2014). Nutrient additions to mitigate for loss of Pacific salmon: consequences for stream biofilm and nutrient dynamics. Ecosphere 5:art69 [IAB 4163].

Koch, J.C., **Gurney, K. (p)**, and **Wipfli, M.S. (f)** (2014). Morphology-dependent water budgets and nutrient fluxes in arctic thaw ponds. 25:79-93 [IAB 4164].

- Neuswanger, J. (g), Wipfli, M.S. (f)**, Rosenberger, A.E., and **Hughes, N.F. (g)** (2014). Mechanisms of drift-feeding behavior in juvenile Chinook salmon and the role of inedible debris in a clear-water Alaskan stream. 97:489-503 [IAB 4165].
- Rinella, D.J. (g), Wipfli, M.S. (f)**, Walker, C.M., Stricker, C.A., and Heintz, R.A. (2013). Seasonal persistence of marine-derived nutrients in south-central Alaskan salmon streams. *Ecosphere* 4:art122 [IAB 4166].
- Chi, D.L., **Hopkins, S. (s), O'Brien, D. (f)**, Mancl, L., **Orr, E. (s)**, and Lenaker, D. (2015). Association between added sugar intake and dental caries in Yup'ik children using a novel hair biomarker. *BMC Oral Health* 15:121 [IAB 4167].
- O'Brien, D.M. (f)** (2015). Stable Isotope Ratios as Biomarkers of Diet for Health Research. *Annual Review of Nutrition* 35:565-594 [IAB 4168].
- Beaulieu-Jones, B.R., **O'Brien, D.M. (f), Hopkins, S.E. (s)**, Moore, J.H., **Boyer, B.B. (f)**, and Gilbert-Diamond, D. (2015). Sex, Adiposity, and Hypertension Status Modify the Inverse Effect of Marine Food Intake on Blood Pressure in Alaska Native (Yup'ik) People. *The Journal of Nutrition* 145:931-938 [IAB 4169].
- Vaughan, L.K., Wiener, H.W., Aslibekyan, S., Allison, D.B., Havel, P.J., Stanhope, K.L., **O'Brien, D.M. (f), Hopkins, S.E. (s)**, Lemas, D.J., **Boyer, B.B. (f)**, and Tiwari, H.K. (2015). Linkage and association analysis of obesity traits reveals novel loci and interactions with dietary n-3 fatty acids in an Alaska Native (Yup'ik) population. *Metabolism: Clinical and Experimental* 64:689-697 [IAB 4170].
- Ryman, T.K., **Boyer, B.B. (f), Hopkins, S. (s), Philip, J. (s), O'Brien, D. (f)**, Thummel, K., and Austin, M.A. (2015). Characterising the reproducibility and reliability of dietary patterns among Yup'ik Alaska Native people. *The British Journal of Nutrition* 113:634-643 [IAB 4171].
- Larsen, T., Ventura, M., Andersen, N., **O'Brien, D.M. (f)**, Piatkowski, U., and McCarthy, M.D. (2013). Tracing Carbon Sources through Aquatic and Terrestrial Food Webs Using Amino Acid Stable Isotope Fingerprinting. *PLoS ONE* 8:e73441EP - [IAB 4172].
- Ungvari, Z., **Podlutsky, A. (f)**, Sosnowska, D., Tucsek, Z., Toth, P., Deak, F., Gautam, T., Csiszar, A., and Sonntag, W.E. (2013). Ionizing Radiation Promotes the Acquisition of a Senescence-Associated Secretory Phenotype and Impairs Angiogenic Capacity in Cerebromicrovascular Endothelial Cells: Role of Increased DNA Damage and Decreased DNA Repair Capacity in Microvascular Radiosensitivity. *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences* 68:1443-1457 [IAB 4173].
- Ratnam, S., Engler, P., Bozek, G., Mao, L., **Podlutsky, A. (f)**, Austad, S., Martin, T., and Storb, U. (2014). Identification of Ssm1b, a novel modifier of DNA methylation, and its expression during mouse embryogenesis. *Development (Cambridge, England)* 141:2024-2034 [IAB 4174].
- Koven, C.D., **Schuur, E.A.G. (r)**, Schadel, C., Bohn, T.J., Burke, E.J., Chen, G., Chen, X., Ciais, P., Grosse, G., **Harden, J.W. (r)**, Hayes, D.J., Hugelius, G., Jafarov, E.E., Krinner, G., Kuhry, P., Lawrence, D.M., MacDougall, A.H., Marchenko, S.S., **McGuire, A.D. (f)**, Natali, S.M., Nicolsky, D.J., Olefeldt, D., Peng, S., Romanovsky, V.E., Schaefer, K.M., Strauss, J., Treat, C.C., and **Turetsky, M. (r)** (2014). A simplified, data-constrained approach to estimate the permafrost carbon-climate feedback. *Philosophical Transactions of the Royal Society A* 373: [IAB 4175].
- Zhuang, Qianli, Zhu, Zudong, He, Yujie, Prigent, Catherine, Melillo, Jerry M., **McGuire, A. David (f)**, Prinn, Ronald G., and Kicklighter, David W. (2015). Influence of changes in wetland inundation extent on net fluxes of carbon dioxide and methane in northern high latitudes from 1993 to 2004. *Environmental Research Letters* 10:095009 [IAB 4176].
- Churchill, A.C. (g), Turetsky, M.R. (r), McGuire, A.D. (f)**, and **Hollingsworth, T.N. (r)** (2014). Response of plant community structure and primary productivity to experimental drought and flooding in an Alaskan fen. *Can. J. For. Res.* 45:185-193 [IAB 4177].
- Hinzman, L.D., Deal, C.J., **McGuire, A.D. (f)**, Mernild, S.H., Polyakov, I.V., and Walsh, J.E. (2013). Trajectory of the Arctic as an integrated system. *Ecological Applications* 23:1837-1868 [IAB 4178].
- McGuire, A.D. (f)**, Hinzman, L.D., Walsh, J., Hobbie, J., and **Sturm, M. (o)** (2013). Trajectory of the Arctic as an integrated system. *Ecological Applications* 23:1743-1744 [IAB 4179].
- He, Y., Yang, J., Zhuang, Q., **McGuire, A.D. (f)**, Zhu, Q., Liu, Y., and Teskey, R.O. (2014). Uncertainty in the fate of soil organic carbon: A comparison of three

conceptually different decomposition models at a larch plantation. *Journal of Geophysical Research: Biogeosciences* 119:1892-1905 [IAB 4180].

Kicklighter, D.W., Hayes, D.J., McClelland, J.W., Peterson, B.J., **McGuire, A.D. (f)**, and Melillo, J.M. (2013). Insights and issues with simulating terrestrial DOC loading of Arctic river networks. *Ecological Applications* 23:1817-1836 [IAB 4181].

McConnell, N.A., **Turetsky, M.R. (r)**, **McGuire, A.D. (f)**, Kane, E.S., Waldrop, M.P., and **Harden, J.W. (r)** (2013). Controls on ecosystem and root respiration across a permafrost and wetland gradient in interior Alaska. *Environmental Research Letters* 8: [IAB 4182].

Kilinc, M., Beringer, J., Hutley, L.B., Tapper, N.J., and **McGuire, D.A. (f)** (2013). Carbon and water exchange of the world's tallest angiosperm forest. *Agricultural and Forest Meteorology* 182-183:215-224 [IAB 4183].

Mishra, U., Jastrow, J.D., Matamala, R., Hugelius, G., Koven, C.D., **Harden, J.W. (r)**, Ping, C.L., Michaelson, G.J., Fan, Z., Miller, R.M., **McGuire, A.D. (f)**, Tarnocai, C., Kuhry, P., Riley, W.J., **Schaefer, K. (r)**, Schuur, E.A.G., Jorgenson, M.T., and **Hinzman, L.D. (o)** (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 [IAB 4184].

Zhuang, Q., Chen, M., Xu, K., Tang, J., Saikawa, E., Lu, Y., Melillo, J.M., Prinn, R.G., and **McGuire, A.D. (f)** (2013). Response of global soil consumption of atmospheric methane to changes in atmospheric climate and nitrogen deposition. *Global*

Biogeochemical Cycles 27:650-663 [IAB 4185].

Parmentier, F.-J.W., Christensen, T.R., Sorensen, L.L., Rysgaard, S., **McGuire, A.D. (f)**, Miller, P.A., and **Walker, D.A. (f)** (2013). The impact of lower sea-ice extent on Arctic greenhouse-gas exchange. 3:195-202 [IAB 4186].

Waldrop, M.P., **Harden, J.W. (r)**, **Turetsky, M.R. (r)**, Petersen, D.G., **McGuire, A.D. (f)**, Briones, M.J.I., **Churchill, A.C. (g)**, Doctor, D.H., and Pruet, L.E. (2012). Bacterial and enchytraeid abundance accelerate soil carbon turnover along a lowland vegetation gradient in interior Alaska. *Soil Biology and Biochemistry* 50:188-198 [IAB 4187].

Weng, E., Luo, Y., Wang, W., Wang, H., Hayes, D.J., **McGuire, A.D. (f)**, Hastings, A., and Schimel, D.S. (2012). Ecosystem carbon storage capacity as affected by disturbance regimes: A general theoretical model. *Journal of Geophysical Research: Biogeosciences* 117:n/a-n/a [IAB 4188].

Hayes, D.J., Turner, D.P., Stinson, G., **McGuire, A.D. (f)**, Wei, Y., West, T.O., Heath, L.S., de Jong, B., McConkey, B.G., Birdsey, R.A., Kurz, W.A., Jacobson, A.R., Huntzinger, D.N., Pan, Y., Post, W.M., and Cook, R.B. (2012). Reconciling estimates of the contemporary North American carbon balance among terrestrial biosphere models, atmospheric inversions, and a new approach for estimating net ecosystem exchange from inventory-based data. *Global Change Biology* 18:1282-1299 [IAB 4189].

Barrett, K., **McGuire, A.D. (f)**, Hoy, E.E., and Kasischke, E.S. (2011). Potential shifts in dominant forest cover in interior Alaska driven by variations in fire severity. *Ecological Applications* 21:2380-2396 [IAB 4190].

See the [UAF Cornerstone](http://uaftercornerstone.net/) for more news and events (<http://uaftercornerstone.net/>).

Quote of the Day

There are many ways of going forward, but only one way of standing still.

[Franklin D. Roosevelt](#)