

# Blaize A. Denfeld

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## Research Interests

Climate and Global Environmental Change, Land-Water-Atmosphere Interactions, Winter Limnology, Lake and River Biogeochemistry, Human-Environment Relations, Remote Sensing and Spatial Analysis, Team Science

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## Education

Ph.D., Limnology, <i>Uppsala University, Uppsala, Sweden</i>	2016
M.A., Geographical Information Science, <i>Clark University, MA, USA</i>	2011
B.A., Earth System Science, <i>Clark University, MA, USA</i>	2010

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## Research Experience

AAAS S&T Policy Fellow at NASA, <i>Washington DC, USA</i>	Sept 2018–present
Postdoctoral Researcher, <i>Umeå University, Umeå, Sweden</i>	Apr 2016–Jul 2018
Nordic Centers of Excellence Fellow, <i>Uppsala University, Uppsala, Sweden</i>	Sept 2011–Mar 2016
Environmental Outreach Coordinator, <i>Ecotarium, Worcester, MA, USA</i>	Sept 2010–May 2011
Water Quality Monitor, <i>Blackstone River Coalition, Worcester, MA, USA</i>	Fall 2010
Field Assistant, <i>The Polaris Project, Northeast Siberia, Russia</i>	Summer 2009, 2010
GIS Expert, <i>Department of Public Works, Lexington, MA, USA</i>	Summer 2008

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## Achievements and Awards

Travel Fellowships (\$3,500), <i>Global Lake Ecological Observatory Network</i>	2012–2017
Outstanding Reviewer Award, <i>American Geophysical Union</i>	2015
Environmental Research Grant (~\$36,000), <i>Malméns Foundation</i>	2012–2014
Anna Maria Lundins Travel Scholarship (\$1,000), <i>Småland Nation</i>	2014
Travel and Accommodation Scholarship (\$250), <i>Nordflux</i>	2013
IPY Accommodation Award, <i>APECS</i>	2012
Travel Award (\$500), <i>American Geophysical Union</i>	2010
Richard Fairbanks Athletic Community Service Award, <i>Clark University</i>	2010
Gamma Theta Upsilon, Geography Honor Society, <i>Clark University</i>	2009
NEWMAC Scholar Athlete, <i>Clark University Women's Basketball</i>	2006–2010
Presidential Scholar, Merit-based scholarship, <i>Clark University</i>	2006–2010

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## Publications

*\*Indicates shared first authorship*

**Denfeld, B.A.**, M. Klaus, H. Laudon, R. A. Sponseller & J. Karlsson. 2018. Carbon dioxide and methane dynamics in a small boreal lake during winter and spring melt events. *J. of Geophys. Res. Biogeosciences*, doi: 10.1029/2018JG004622.

**Denfeld, B.A.**, H. Baulch, S. Hampton, P. Del Giorgio & J. Karlsson. 2018. A synthesis of carbon dioxide and methane dynamics during the ice-covered period of northern lakes. *Limnol. Oceanogr. Letters*, doi: 10.1002/lol2.10079.

Engel, F., K. Farrell, I. M. McCullough, F. Scordo, **B.A. Denfeld**, H. A. Dugan, E. de Eyto, P. C. Hanson, R. P. McClure, P. Noges, T. Noges, E. Ryder, K. C. Weathers, G. A. Weyhenmeyer. 2018. A lake classification concept for a more accurate estimate of the dissolved inorganic carbon export from terrestrial ecosystems to inland waters. *Sci. Nat.*, doi: 10.1007/s00114-018-1547-z.

**Denfeld, B. A.**, P. Kortelainen, M. Rantakari, S. Sobek, G.A. Weyhenmeyer. 2016. Regional variability and drivers of below ice  $p\text{CO}_2$  in boreal and subarctic lakes. *Ecosystems*, 19: 461-476.

**Denfeld, B. A.\***, M. Ricão Canelhas \*, G.A. Weyhenmeyer, S. Bertilsson, A. Eiler & D. Bastviken. 2016. Constraints on methane oxidation in ice-covered boreal lakes. *J. of Geophys. Res. Biogeosciences*, 121: 2016JG003382.

Ricão Canelhas, M.\*, **B. A. Denfeld\***, G.A. Weyhenmeyer, D. Bastviken & S. Bertilsson. 2016. Methane oxidation at the water-ice interface of an ice-covered lake. *Limnol. Oceanogr.*, 61: 1814-25.

Chmiel, H. E., J. Kokic, **B.A. Denfeld**, K. Einarsdottir, M. Wallin, A. Isodorova, B. Koehler, D. Bastviken, M.-E. Ferland & S. Sobek. 2016. The role of lake sediments in the carbon budget of a small boreal lake. *Limnol. Oceanogr.*, 61: 1814-1825.

**Denfeld, B. A.**, M. Wallin, E. Sahlée, S. Sobek, J. Kokic, H.E. Chmiel & G.A. Weyhenmeyer. 2015. Temporal and spatial carbon dioxide concentration patterns in a small boreal lake in relation to ice cover dynamics. *Boreal Environ. Res.* 20: 679-692.

Kokic, J., M. Wallin, H.E. Chmiel, **B.A. Denfeld** & S. Sobek. 2014. Carbon dioxide evasion from headwater systems strongly contributes to the total export of carbon from a small boreal lake catchment. *J. of Geophys. Res. Biogeosciences* 120: 13-28.

**Denfeld, B.A.**, K.E. Frey, W.V. Sobczak & R.M. Holmes. 2013. Summer  $\text{CO}_2$  evasion from streams and rivers in the Kolyma River basin, Northeast Siberia. *Polar Res.*, 32:1, doi: 10.3402/polar.v32i0.19704.

## Presentations

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**Denfeld, B. A.**, Global Lake Ecological Observatory Network: Graduate Student Perspective (Invited Oral Presentation). *GLEON 19 Meeting*, NY, USA (27 Nov–1 Dec 2017).

**Denfeld, B. A.**, Baulch, H., Del Giorgio, P., Hampton, S. & J. Karlsson. Winter carbon dynamics in northern lakes: Implications of a changing ice-cover (Oral Presentation). *Aquatic Sciences Meeting*. Hawaii, USA (26 Feb–3 Mar 2017)

**Denfeld, B. A.**, J. Karlsson & H. Laudon. New site: Stortjärn Lake, Krycklan, Sweden (Poster). *GLEON 18 Meeting*. Gaming, Austria (4–8 July 2016)

**Denfeld, B. A.**, & G. Hong. Science of Team Science (Oral Presentation). *GLEON 17 Student Association Workshop*. Chuncheon, South Korea (12 October 2015)

- Denfeld, B. A.,** M. R. Canelhas, S. Bertilsson, D. Bastviken, & G. A. Weyhenmeyer. Constraints on CH<sub>4</sub> oxidation in ice-covered lakes of Sweden (Poster). *GLEON 17 Meeting*. Chuncheon, South Korea (12–16 October 2015)
- Denfeld, B. A.,** M. R. Canelhas, S. Bertilsson, D. Bastviken, & G. A. Weyhenmeyer. Methane accumulation and oxidation at the water-ice interface in an ice-covered lake (Oral Presentation). *Aquatic Sciences Meeting*. Granada, Spain (22–27 February 2015)
- Denfeld, B. A.,** M. Wallin, E. Sahlée, S. Sobek, J. Kokic, H. Chmiel, & G.A. Weyhenmeyer. In-lake carbon dioxide concentration patterns in four distinct phases in relation to ice cover dynamics (Poster). *American Geophysical Union Meeting*. San Francisco, CA, USA (15–19 December 2014)
- Denfeld, B. A.,** & G. A. Weyhenmeyer. Under ice CO<sub>2</sub> dynamics in lakes across the boreal region (Poster) *GLEON 16 Meeting*. Orford, Canada (27–31 October 2014)
- Denfeld, B. A.,** P. Kortelainen, M. Rantakari, S. Sobek, & G.A. Weyhenmeyer. Dynamics and controls of CO<sub>2</sub> accumulation in ice-covered lakes of Scandania (Invited Oral Presentation). *Gas Exchange Between Fresh Waters and the Atmosphere Workshop*, Hyytiälä, Finland (16–19 September 2014)
- Denfeld, B. A.,** & G. A. Weyhenmeyer. Under ice high frequency pCO<sub>2</sub> in a boreal lake and CO<sub>2</sub> outburst (Poster) *GLEON 15 Meeting*. Bahia Blanca, Argentina (4–8 November 2013)
- Denfeld, B.A.,** & G. A. Weyhenmeyer. Local scale under ice CO<sub>2</sub> processes in boreal lakes (Oral Presentation) *Nordic Centers of Excellence CRAICC Annual Meeting*. Aarhus, Denmark (21–23 August 2013)
- Denfeld, B. A.** Remote Sensing of the Cryosphere (Oral Presentation) *Color of Water Workshop*. Uppsala, Sweden (14–15 June 2013)
- Denfeld, B. A.** Under ice CO<sub>2</sub> dynamics in Nordic lakes: Implications of a changing cryosphere (Oral Presentation) *National Carbon Budget within the Nordic Region Workshop*. Roskilde, Denmark (20–22 March 2013)
- Denfeld, B. A.** Implications of a changing cryosphere on lake CO<sub>2</sub> dynamics (Invited Oral Presentation) *Nordic Centers of Excellence TRI conference*. Bergen, Norway (7–8 November 2012)
- Denfeld, B. A.,** & G. A. Weyhenmeyer. Under ice CO<sub>2</sub>: Implications of a changing cryosphere (Oral Presentation) *Nordic Centers of Excellence CRAICC Annual Meeting*. Oslo, Norway (26–28 September 2013)
- Denfeld, B. A.,** K. E. Frey, W.V. Sobczak & R. M. Holmes. Summer CO<sub>2</sub> Evasion from streams and rivers in the Kolyma River Basin, Northeast Siberia (Poster) *International Polar Year Conference*. Montréal, Canada (22–27 April 2012)
- Denfeld, B. A.,** K. E. Frey, R. M. Holmes & W. V. Sobczak. Outgassing of CO<sub>2</sub> from streams and rivers in the Kolyma River Basin, Northeast Siberia (Poster) *Association of American Geographers Meeting*. Seattle, WA, USA (12–16 April 2011)
- Denfeld, B. A.,** K. E. Frey, E. B. Bulygina, T. Drake, R. M. Holmes, J. D. Schade, W. V. Sobczak & N. Zimov. Carbon processing in the Kolyma River Watershed and the role it plays in CO<sub>2</sub> outgassing (Poster) *American Geophysical Union Meeting*. San Francisco, CA, USA (13–17 December 2010)
- Denfeld, B. A.** Arctic Freshwater Ecology (Invited Guest Lecture) *Freshwater Ecology Undergraduate Course*, College of the Holy Cross, Worcester, MA, USA (Autumn 2010)
- Denfeld, B. A.,** & K. E. Frey. Impacts of watershed characteristics on the biogeochemistry of the Kolyma River Basin, Northeast Siberia (Poster) *Association of American Geographers Meeting*. Washington, DC, USA (14–18 April 2010)

**Denfeld, B. A.,** K. E. Frey, E. B. Bulygina, A. Bunn, S. Chandra, S. Davydov, R. M. Holmes, J. Schade, et al. Impacts of Watershed Characteristics on the Biogeochemistry of the Kolyma River Basin (Poster) *State of the Arctic Meeting*. Miami, FL, USA (16–19 March 2010)

## Teaching

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### *Teaching Assistant*

Limnology Book Club ( <i>PhD level course development and implementation</i> )	Summer 2013
The Baltic Sea Environment ( <i>Online course for students &amp; professionals</i> )	Fall 2012–2014
Applied Ecosystem Ecology ( <i>Master level course GIS module</i> )	Fall 2011–2014

### *Teacher Training*

Teaching Evaluation and Mentorship Program, <i>Uppsala University</i>	Fall 2014
Academic Teacher Training Course, <i>Uppsala University</i>	Spring 2013

## Leadership and Community Service

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Lake Site Contact, Stortjärn Lake, Sweden, <i>GLEON and SITES Water</i>	2016–2018
Session Chair, <i>Aquatic Sciences Meeting</i>	2017
GLEON 19 Meeting Program Committee, <i>NY, USA</i>	2017
Chair, <i>GLEON Student Association</i>	2017
GLEON 18 Meeting Program Committee, <i>Austria</i>	2016
Co-chair, <i>GLEON Student Association</i>	2016
GLEON 17 Meeting Program Committee, <i>South Korea</i>	2015
Co-chair Elect, <i>GLEON Student Association</i>	2015
Graduate Student Representative, <i>Uppsala University</i>	2013–2014
Science Festival Volunteer, <i>SciFest, Uppsala, Sweden</i>	2013, 2014, 2015
Program Assistant, Luxemburg May Term, <i>Clark University</i>	2010
Student-Athlete Outreach Director, <i>SAAC Clark University</i>	2008–2010
Trek Outward Bound Expedition Leader, <i>Clark University</i>	Summer 2008
Campus Tour Guide, <i>Scarlet Letter, Clark University</i>	2007–2008
Campus Blogger, <i>Scarlet Letter, Clark University</i>	2007–2008

## Scientific Outreach and Multimedia

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Contributed to the GLEON Student Blog, <a href="http://blog.gleon.org/">http://blog.gleon.org/</a>	2015–2017
Multimedia Research Presentation, <a href="http://www.youtube.com/watch?v=B14vd04nfHo">http://www.youtube.com/watch?v=B14vd04nfHo</a>	2012
Featured in Student Impact Video, The Polaris Project, <a href="http://www.thepolarisproject.org/multimedia/videos/student-impact/">http://www.thepolarisproject.org/multimedia/videos/student-impact/</a>	2010
Featured in the New York Times Dot Earth Blog, <a href="http://dotearth.blogs.nytimes.com/2009/07/24/a-postcard-from-the-pleistocene/">http://dotearth.blogs.nytimes.com/2009/07/24/a-postcard-from-the-pleistocene/</a>	24 July 2009
Featured in Student Project Video, The Polaris Project, <a href="http://www.thepolarisproject.org/multimedia/videos/survey/">http://www.thepolarisproject.org/multimedia/videos/survey/</a>	2009
Contributed to The Polaris Project Field Notes, <a href="http://www.thepolarisproject.org/blog/">http://www.thepolarisproject.org/blog/</a>	2009–2010

## Review Services

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Journal Reviews: *Biogeochemistry*, *Ecology*, *Global Biogeochemical Cycles*, *Inland Waters*, *Journal of Geophysical Research–Biogeosciences*, *Environmental Science & Technology*, *Freshwater Biology*, *Aquatic Sciences*, *Limnology and Oceanography Letters*

## Skills

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- GIS and Remote Sensing: ArcMap (proficient), Idrisi (intermediate)
- Programming: R (intermediate), Matlab (basic)
- Organizational management: Scientific meetings/workshops, social events, liaison
- Language skills: English (native), Swedish (conversational), Spanish (basic)