

## ANDREW D. JACOBSON

CV PREPARED: APRIL 17, 2024

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### RESEARCH EXPERTISE

Radiogenic isotope geochemistry  
Low-temperature aqueous geochemistry

### EDUCATION

2001 PhD, Geological Sciences, University of Michigan, Ann Arbor (Advisor: Joel D. Blum)  
1999 MS, Earth Sciences, Dartmouth College (Advisor: Joel D. Blum)  
1996 BA, Double Major: Earth Sciences and Chemistry, University of California, Santa Cruz

### PROFESSIONAL APPOINTMENTS

2023 - Faculty Affiliate, Paula M. Trienens Institute for Sustainability and Energy  
2016 - Professor, Department of Earth and Planetary Sciences, Northwestern University  
2016 - 2019 Director, Environmental Sciences Program, Northwestern University  
2011 - 2014 Director, Environmental Sciences Program, Northwestern University  
2009 - 2016 Associate Professor, Department of Earth and Planetary Sciences, Northwestern University  
2007 - 2011 Courtesy Appointment, Plant Conservation and Biology, Chicago Botanical Garden  
2006 - 2013 Courtesy Appointment, Department of Civil and Environmental Engineering, Northwestern University  
2004 - 2009 Assistant Professor, Department of Earth and Planetary Sciences, Northwestern University  
2002 - 2004 Postdoctoral Fellow, Department of Geological Sciences, California Institute of Technology (Advisor: Gerald J. Wasserburg)  
2001 - 2002 Postdoctoral Fellow, Department of Geological Sciences, University of Michigan, Ann Arbor (Advisor: Joel D. Blum)

### FELLOWSHIPS, AWARDS, AND HONORS

2012 Erskine Fellow, Department of Geological Sciences, University of Canterbury, Christchurch, New Zealand  
2008 Geochemical Society F. W. Clarke Medal (Early Career Award)  
2007 David and Lucile Packard Foundation Fellowship  
2005 Searle Center Junior Teaching Fellow, Northwestern University  
2002 Dorr Award, University of Michigan, Ann Arbor  
2000 Scott Turner Award, University of Michigan, Ann Arbor  
1998 Graduate Alumni Research Award, Dartmouth College  
1996 STAR Environmental Protection Agency Graduate Fellowship, Dartmouth College  
1996 James O. Freedman Presidential Scholarship, Dartmouth College  
1996 Doug Drexler Memorial Scholarship, University of California, Santa Cruz  
1996 Ellen Renard Memorial Scholarship, University of California, Santa Cruz  
1996 Highest Honors, Chemistry Department, University of California, Santa Cruz  
1996 Honors, Earth Science Department, University of California, Santa Cruz

### FUNDING

Total Raised: \$10.3M with \$4.5M to Jacobson/Northwestern

2025 - 2029 **Jacobson A. D.**, Egerton-Warburton L., Sageman B. B., and Bryson M. "Enabling carbon drawdown in the US Midwest through enhanced carbonate mineral weathering" Department of Energy, National Energy Technology Laboratory, Carbon Negative Shot Pilots (DE-FOA-0003082), \$2,350,757 out of \$3,948,886 (Pending)

- 2024 - 2027 Waldeck A. R., **Jacobson A. D.**, Sageman B. B., MacLeod K., and Huber B. T. "Collaborative Research: Testing the calcium isotope proxy in foraminifera from the Cretaceous Hothouse: A case study across the Aptian/Albian Boundary Interval" NSF-EAR, \$567,459 out of \$882,893 (Pending)
- 2024 - 2027 **Jacobson A. D.** "The Ca isotope geochemistry of basalt weathering in the Deccan Traps" NSF-EAR, \$591,960 (Pending)
- 2024 - 2029 **Jacobson A. D.** "TS: Support for a TIMS Technician in the Radiogenic Isotope Geochemistry Clean Laboratory at Northwestern University" NSF-EAR, \$943,381 (Pending)
- 2024 - 2026 **Jacobson A. D.**, Sageman B. B., Zerega N., Egerton-Warburton L., Giavelli P. "Experimental and Numerical Development Protocols for Enhanced Rock Weathering: Verifying Carbon Capture Criteria and Biological Impacts" Paula M. Trienens Institute for Sustainability and Energy at Northwestern, \$455,932
- 2019 - 2022 Kitch G. D. and **Jacobson A. D.** "Carbonate Chemistry during the Paleogene" National Science Foundation – Columbia University, \$13,987
- 2017 - 2023 Hurtgen M. T., **Jacobson A. D.**, and Sageman B. B. "The strontium isotope composition of Neoproterozoic carbonates: Implications for the carbon cycle and the evolution of the biosphere" NASA Exobiology 80NSSC17K0245, \$442,111
- 2016 - 2022 **Jacobson A. D.** "The calcium and strontium (radiogenic and stable) isotope geochemistry of weathering in Iceland" NSF-EAR 1613359, \$415,078
- 2013 - 2019 **Jacobson A. D.** "CO<sub>2</sub> evasion from the Greenland ice sheet" NSF-PLR 1304686, \$338,987
- 2013 - 2019 Alkire M. B. and **Jacobson A. D.** "Assessing the Impact of Small, Canadian Arctic River Flows (SCARFs) to the Freshwater Budget of the Canadian Archipelago" NSF-PLR 1304675, \$411,998 out of \$1,099,535
- 2013 - 2018 Kumar P. (lead PI), **Jacobson A. D.** (Senior Personnel) "Critical Zone Observatory Network for Intensively Managed Landscapes" NSF-CZO 1331906, \$220,447 out of \$5,000,000
- 2013 - 2014 Buscarnera G., Packman A. I., and **Jacobson A. D.** "Multi-scale models for assessing basic processes that regulate CO<sub>2</sub> storage in geological reservoirs" Initiative for Sustainability and Energy at Northwestern (ISEN), \$35,000
- 2012 - 2013 **Jacobson A. D.** "Ca and Sr Isotopes, carbonate minerals, and carbon capture sequestration" Initiative for Sustainability and Energy at Northwestern (ISEN), \$20,000
- 2010 - 2012 **Jacobson A. D.** "Isotopic tracking of Arctic climate change" Initiative for Sustainability and Energy at Northwestern (ISEN), \$45,000
- 2010 - 2011 **Jacobson A. D.** "Acquisition of equipment for monitoring the urban metabolism of Chicago" Initiative for Sustainability and Energy at Northwestern (ISEN), \$45,000
- 2009 - 2012 **Jacobson A. D.**, McClelland J. W., and Douglas T. A. "Collaborative research: chemical weathering and organic carbon export from Arctic watersheds, North Slope, AK" NSF-PLR 0806643, \$258,707 out of \$657,845
- 2008 - 2010 **Jacobson A. D.** "The Ca isotope geochemistry of chemical weathering in the New Zealand Southern Alps" NSF-EAR 0643317, \$60,000
- 2007 - 2022 **Jacobson A. D.** "Application of calcium isotope geochemistry to the study of Earth's carbon cycle" David and Lucile Packard Foundation Fellowship for Science and Engineering 2007-31757, \$825,000
- 2007 - 2012 **Jacobson A. D.** "MRI: Acquisition of thermal ionization mass spectrometer (TIMS) for Earth, environmental, and cross-disciplinary research" NSF-EAR 0723151, \$847,218
- 2006 - 2008 **Jacobson A. D.** "The rates and mechanisms of Ca isotope transport in aquifers" NSF-EAR 0617585, \$91,035

## TEACHING

- EARTH 201 Earth Systems Revealed (Introductory Physical Geology)
- EARTH 310 Introductory Aqueous Geochemistry
- EARTH 313 Radiogenic Isotope Geochemistry
- EARTH 399 Undergraduate Independent Study
- EARTH 440 Graduate Seminar
- EARTH 499 Graduate Independent Study
- ISP 398 Undergraduate Independent Study

## PROFESSIONAL ACTIVITIES

- 2024 Invited Speaker, Geological and Environmental Sciences, Western Michigan University
- 2023 Invited Speaker, School of Earth Sciences and Resources, China University of Geosciences, Beijing
- 2023 Invited Speaker, Spectroscopy Lecturer, Geology and Environmental Science, University of Pittsburgh
- 2023 Invited Speaker, Smith Alumni Lecture, Earth and Environmental Sciences, University of Michigan, Ann Arbor
- 2021 - 2024 Co-Editor in Chief, *Earth and Planetary Science Letters*
- 2021 Panelist, National Science Foundation, Low-Temperature Geochemistry and Geobiology
- 2019 Panelist, National Science Foundation, Arctic Natural Sciences
- 2019 Panelist, National Science Foundation, Critical Zone Observatory Network
- 2015 Invited Speaker, Geological Sciences, University of Colorado, Boulder
- 2014 Committee Member, Weathering and Surface Processes Theme, V. M. Goldschmidt Conference, Prague
- 2013 Co-Chair, Session on Recent Advances in the Study of Ocean Anoxic Events, Fall American Geophysical Union Conference, San Francisco, CA
- 2013 Co-Chair, Session on Weathering Processes in Glaciated and Permafrost Dominated Environments, V. M. Goldschmidt Conference, Florence, Italy
- 2012 - 2024 Associate Editor, *Geochimica et Cosmochimica Acta*
- 2011 Invited Speaker, Geological Sciences, Northern Illinois University
- 2011 Invited Speaker, Geological Sciences, Western Michigan University
- 2010 Panelist, NSF GEOVISION report for the National Research Council committee on Basic Research Opportunities in Earth Science
- 2010 Panelist, National Science Foundation, Low-Temperature Aqueous Geochemistry and Geobiology
- 2010 Invited Speaker, National Science Foundation
- 2010 Invited Presentation, United States Congress, hosted by the American Geological Institute
- 2010 Co-Chair, Global Elemental Cycles theme, V. M. Goldschmidt Conference, Knoxville, TN
- 2009 Panelist, National Science Foundation, Low-Temperature Aqueous Geochemistry and Geobiology
- 2008 Invited Speaker, Geological Sciences, The Ohio State University
- 2008 Fieldtrip Leader, David and Lucile Packard Foundation Fellows Reunion, Park City, UT
- 2008 Panelist, Department of Energy Environmental Remediation Sciences Division within the Office of Biological and Environmental Research
- 2008 Participant, NSF-REU awarded to Chicago Botanical Garden
- 2008 Invited Speaker, Geosciences and Hydrology and Water Resources, University of Arizona, Tucson
- 2008 Invited Speaker, Geological Sciences, University of Colorado, Boulder
- 2006 Panelist, Department of Energy Environmental Remediation Sciences Division within the Office of Biological and Environmental Research
- 2006 Invited Speaker, Earth and Environmental Sciences, University of Illinois, Chicago
- 2005 Invited Speaker, Chicago Botanical Garden
- 2005 Invited Speaker, Civil and Environmental Engineering, Northwestern University
- 2005 Participant, National Science Foundation Critical Zone Workshop, University of Delaware
- 2004 Invited Speaker, Fall American Geophysical Union Meeting
- 2003 Invited Speaker, Geological and Planetary Sciences, California Institute of Technology
- 2003 Invited Speaker, Earth and Environmental Sciences, Northwestern University
- 2003 Invited Speaker, Geology and Geophysics, University of Minnesota
- 2003 Invited Speaker, Earth Science, Rice University
- 2003 Invited Speaker, Geological Sciences, University of North Carolina, Chapel Hill
- 2003 Invited Speaker, Geological Sciences, University of Oregon
- 2002 Invited Speaker, Earth and Environmental Sciences, Lehigh University
- 2002 Invited Speaker, Geology, University of Illinois, Urbana-Champaign
- 2002 Invited Speaker, Earth and Planetary Sciences, Northwestern University

## DEPARTMENT AND UNIVERSITY SERVICE

- 2023 - Director of Graduate Studies
- 2023 - 2024 Ad-hoc Member, Weinberg Tenure Committee
- 2017 - 2018 Ad-hoc Member, Weinberg Tenure Committee

2017 - 2018 Chair, Lecturer Search Committee, Environmental Sciences Program  
 2016 - 2019 Chair, Environmental Sciences Program Committee  
 2015 - 2016 Chair, Curriculum Committee, Earth and Planetary Sciences  
 2013 - 2014 Chair, Lecturer Search Committee, Environmental Sciences Program  
 2013 - 2014 Chair, ad hoc BA/MS Committee, Earth and Planetary Sciences  
 2012 - 2013 Member, Geobiology Faculty Search Committee, Earth and Planetary Sciences  
 2012 - 2013 Member, Faculty Search Committee, Anthropology  
 2012 - 2014 Chair, Curriculum Committee, Earth and Planetary Sciences  
 2011 - 2014 Chair, Environmental Sciences Program Committee  
 2011 - Member, Curriculum Committee, ISEN  
 2011 - 2011 Member, Environmental Policy Faculty Search Committee, Weinberg College of Arts and Sciences  
 2010 - 2013 Member, Limited Submissions Advisory Committee, Vice President's Office for Research  
 2010 - 2013 Member, Curriculum Review Committee, Weinberg College of Arts and Sciences  
 2010 - 2011 Member, One Book, One Northwestern Advisory Committee  
 2010 - 2011 Member, Environmental Sciences Program Committee  
 2010 - 2019 Member, Environmental Policy and Culture Committee  
 2009 - 2014 Department Director of Undergraduate Studies  
 2009 - 2010 Co-Chair, University-wide committee for "One Book, One Northwestern: Hot, Flat and Crowded by Thomas L. Friedman"  
 2009 - 2010 Member, Microbiology Faculty Search Committee, Civil and Environmental Engineering  
 2008 - 2011 Member, Fellowship Selection Committee, Office of Fellowships  
 2007 - 2008 AGEP Professor (Alliance for Graduate Education and the Professoriate)  
 2006 - 2008 Member, Shared Facilities Advisory Committee for the Office of Research Development  
 2006 - 2008 Faculty Fellow, Communications Residential College  
 2005 - 2009 Member, Interdisciplinary Committee on Evolutionary Processes  
 2004 - 2005 Member, Paleoclimate Faculty Search Committee, Earth and Planetary Sciences

#### POST-DOCTORAL STUDENT ADVISEES

2024 - Chris Parendo (Trienen's Institute Enhanced Rock Weathering Post-Doctoral Scholar)  
 2021 - Anna Waldeck (Agouron Post-Doctoral Fellow, joint with Penn State University)  
 2017 - 2019 Ben Linzmeier (Assistant Professor, University of Southern Alabama)  
 2016 - 2017 Greg Lehn (Staff Geochemist, Golder Associates, Denver, CO)  
 2009 - 2011 Jong-Sik Ryu (Associate Professor, Pukyong National University)  
 2008 - 2011 Joel Moore (Professor, Towson University)  
 2008 - 2011 Zhaofeng Zhang (Professor, International Research Center for Planetary Science, College of Earth Sciences, Chengdu University of Technology)

#### GRADUATE STUDENT ADVISEES

\*Primary Thesis Advisor, \*\*Thesis Committee Member

2024 - Matthew Semel\*, Earth and Planetary Sciences  
 2024 - Katherine Almquist\*, Earth and Planetary Sciences  
 2022 - Allegra Tashjian\*, Earth and Planetary Sciences  
 2021 - Chuyan Wan\*, Earth and Planetary Sciences  
 2020 - 2022 Kaća Savatic\*\*, Earth and Planetary Sciences  
 2018 - 2020 Karyn DeFranco\*, Earth and Planetary Sciences (Environmental Engineer, Air Enforcement and Compliance Assurance Branch, US EPA Region 5)  
 2017 - 2023 Nilou Sarvian\*, Earth and Planetary Sciences (Founder-in-Residence, Marble Climate Tech Venture Studio)  
 2016 - 2021 Annie Nelson\*, Earth and Planetary Sciences (Co-Founder and Chief Technology Officer, Cella Mineral Storage)  
 2016 - 2021 Gabriella Kitch\*, Earth and Planetary Sciences (NOAA Carbon Dioxide Removal Program Co-Lead)  
 2015 - 2020 Jiuyuan Wang\*, Earth and Planetary Sciences (Assistant Professor, School of Earth and Space Sciences, Peking University, Beijing, China)  
 2013 - 2019 Michelle Wenz\*\*, Earth and Planetary Sciences  
 2013 - 2018 Matthew Jones\*\*, Earth and Planetary Sciences (Research Geologist, USGS, Reston)

2012 - 2017 Grace Andrews\*, Earth and Planetary Sciences (Vice President and Head of Science, Project Vesta)  
 2009 - 2016 Brian Kristall\*\*, Earth and Planetary Sciences  
 2009 - 2014 Darcy Li\*\*, Earth and Planetary Sciences  
 2009 - 2016 Greg Lehn\*, Earth and Planetary Sciences  
 2009 - 2020 Emiliano Monroy-Rios\*\*, Earth and Planetary Sciences  
 2008 - 2014 Allison Baczynski\*\*, Earth and Planetary Sciences  
 2006 - 2008 Rachel Gross\*\*, Plant Biology and Conservation  
 2005 - 2007 Lauren Umek\*\*, Plant Biology and Conservation  
 2004 - 2007 Lingling Wu\*, Earth and Planetary Sciences

### UNDERGRADUATE STUDENT ADVISEES

2024 - Jordan Crumpton, Environmental Sciences Program  
 2023 - Suyang Li, Earth and Planetary Sciences  
 2023 - Jonathan Chen, Earth and Planetary Sciences  
 2022 - 2023 Sara Yen, Environmental Sciences  
 2021 - 2023 Dana Small, Earth and Planetary Sciences  
 2018 - 2022 Tia Chung-Swanson, Earth and Planetary Sciences (PhD Student, Earth System Science, UC Irvine)  
 2018 - 2019 Isaac Sageman, Earth and Planetary Sciences  
 2017 - 2018 Gabriella Boone, Environmental Engineering  
 2015 - 2016 Tyler Kukla (Research Scientist, Carbon Plan)  
 2013 - 2014 Rui Chen, Integrated Sciences Program  
 2012 - 2013 Jennifer Mills, Earth and Planetary Sciences (Founding Team Member, Cascade Climate)  
 2011 - 2013 Harry Hahn, Earth and Planetary Sciences and Environmental Sciences  
 2011 - 2014 Andy Kozminski, Earth and Planetary Sciences and Biological Sciences  
 2011 - 2013 Joey Gill, Earth and Planetary Sciences and Biological Sciences  
 2011 - 2011 Dan Pfeffer, Environmental Sciences  
 2009 - 2010 Jess Kunke, Integrated Sciences Program  
 2009 - 2010 Alan Wong, Earth and Planetary Sciences and Integrated Sciences Program  
 2007 - 2009 Rene Boiteau (Assistant Professor, Chemistry, University of Minnesota-Twin Cities)  
 2007 - 2008 Nicki Kravis, Integrated Sciences Program  
 2006 - 2007 Eric Kramer, Integrated Sciences Program

### PUBLICATIONS

\*NU student, #Funded collaborator or student of funded collaborator

1. Waldeck A. R.\*, Sageman B. B., and **Jacobson A. D.** (In prep) Radiogenic Sr isotopes ratios spanning Cretaceous Ocean Anoxic Event 2 record hydrothermal activity and ocean mixing.
2. Wan C.\*, Kitch G. D.\*, Sarvian N. L.\*, Waldeck A. R.\*, Sageman B. B., and **Jacobson A. D.** (Submitted) Stable Ca and Sr Isotope Records Reveal Variations in Coccolithophore Photosynthesis and Calcification Across the Paleocene-Eocene Thermal Maximum.
3. Pittman Cetiner J. E., Berelson W. M., Rollins N. E., Liu X., Pavia F. J., Waldeck A. R.\*, Dong S., Fleger K., Barnhart H. A., Quinan M., Wani R. P., Rafter P. A., **Jacobson A. D.**, Byrne R. H., Adkins J. F. (In review) Carbonate dissolution fluxes in deep-sea sediments as determined from in situ porewater profiles in a transect across the saturation horizon. *Geochimica et Cosmochimica Acta*.
4. Osburn M. R., Selensky M. J., Beddows P. A., **Jacobson A. D.**, DeFranco K., and Merediz-Alonso G. (2023) Microbial biogeography of the eastern Yucatán carbonate aquifer. *Applied and Environmental Microbiology* 89, e01682-23.
5. Wang J.\*, **Jacobson A. D.**, Sageman B. B., and Hurtgen M. T. (2023) Application of the  $\delta^{44/40}\text{Ca}$ - $\delta^{88/86}\text{Sr}$  multi-proxy to Namibian Marinoan cap carbonates. *Geochimica et Cosmochimica Acta* 353, 13-27.
6. Wang J.\*, Tarhan L. G., **Jacobson A. D.**, Oehlert A. M., and Planavsky N. J. (2023) The evolution of the marine carbonate factory. *Nature* 615, 265–269.
7. Jones M. M.\*, Sageman B. B., Selby D., **Jacobson A. D.**, Batenburg S. J., Riquier L., MacLeod K. G., Huber B. T., Bogus K. A., Tejada M. L. G., Kuroda J., and Hobbs R. W. (2023) Abrupt episode of mid-Cretaceous ocean acidification triggered by massive volcanism. *Nature Geoscience* 16, 169–174, <https://doi.org/10.1038/s41561-022-01115-w>

8. Kitch G. D.\*, **Jacobson A. D.**, Sageman B. B., Coccioni R., Chung-Swanson T.\*, Ankney M. E., and Hurtgen M. T., (2022) Calcium isotope ratios of malformed foraminifera reveal biocalcification stress preceded Oceanic Anoxic Event 2. *Communications Earth & Environment* 3, 315, <https://doi.org/10.1038/s43247-022-00641-0>
9. Nelson C.\*, **Jacobson A. D.**, Kitch G. D., and Weisenberger T. (2022) Controls on riverine calcium isotope ratios during basalt weathering in the Skagafjörður watershed, Iceland. *Geochimica et Cosmochimica Acta* 333, 216-241.
10. Linzmeier B. J.\*, **Jacobson A. D.**, Sageman B. B., Hurtgen M. T., Ankney M. E., Masterson A., and Landman N. H. (2022) Isotope systematics of subfossil, historical, and modern *Nautilus macromphalus* from New Caledonia. *PLOS One* 17, 12, p.e0277666.
11. Nelson C.\*, **Jacobson A. D.**, Kitch G. D.\*, and Weisenberger T. B. (2021) Large calcium isotope fractionations by zeolite minerals from Iceland. *Communications Earth & Environment*. DOI: 10.1038/s43247-021-00274-9
12. Erhardt A. M., Douglas G., **Jacobson A. D.**, Wimpenny J., Yin Q.-Z., and Paytan A. (2021) Assessing sedimentary detrital Pb isotopes as a dust tracer in the Pacific Ocean. *Paleoceanography and Paleoclimatology*, 36, e2020PA004144. DOI: 10.1029/2020PA004144.
13. Chakrabarti R., Surajit M., **Jacobson A. D.**, Mills M., Romaniello S. J., and Vollstaedt H. (2021) Techniques, challenges, new developments, and the way forward for calcium isotope measurements. *Chemical Geology*, 581, 120398, DOI: 10.1016/j.chemgeo.2021.120398.
14. Kitch G. D.\*, **Jacobson A. D.**, Hurtgen M. T., Sageman B. B., Harper D. T., and Zachos J. C. (2021) Calcium isotope composition of *Morozovella Velascoensis* over the Late Paleocene-Early Eocene. *Geology*, 49, 723-727.
15. Wang J.\*, **Jacobson A. D.**, Sageman B. B., and Hurtgen M. T. (2021) Stable Ca and Sr isotopes support volcanically-triggered biocalcification crisis during Oceanic Anoxic Event 1a. *Geology*, 49, 515-519.
16. Linzmeier B. J.\*, **Jacobson A. D.**, Sageman B. B., Hurtgen M. T., Ankney M. E., Petersen S. V., Tobin T. S., Kitch G. D., and Wang J. (2020) Calcium isotope evidence for environmental variability before and across the Cretaceous-Paleogene mass extinction. *Geology*, 38, 34-38.
17. Wang J.\*, **Jacobson A. D.**, Zhang H., Ramezani J., Sageman B. B., Hurtgen M. T., Bowring S. A., and Shen S.-Z. (2019) Coupled  $\delta^{44/40}\text{Ca}$ ,  $^{87}\text{Sr}/^{86}\text{Sr}$ , and  $\delta^{88/86}\text{Sr}$  geochemistry across the end-Permian mass extinction event. *Geochimica et Cosmochimica Acta*, 262, 143-165.
18. Alkire M. B.#, **Jacobson A. D.**, Macdonald R. W., and Lehn G. O.\* (2019) Assessing the contributions of meteoric water and sea ice meltwater in estuaries across the Canadian Arctic Archipelago. *Estuaries and Coasts*, 42, 1226-1248.
19. Connolly C. T.#, Khosh M. S.#, Burkart G., Douglas T. A.#, Holmes R. M., **Jacobson A. D.**, Tank S. E., and McClelland J. W.# (2018) Watershed slope as a predictor of fluvial dissolved organic matter and nitrate concentrations across geographical space and catchment size in the arctic. *Environmental Research Letters*, DOI: 10.1088/1748-9326/aae35d.
20. Andrews M. G.\* and **Jacobson A. D.** (2018) Controls on the solute geochemistry of subglacial discharge from the Russell Glacier, Greenland Ice Sheet determined by radiogenic and stable Sr isotope ratios. *Geochimica et Cosmochimica Acta*, 239, 312-329.
21. Andrews M. G.\*, **Jacobson A. D.**, Osburn M. R., and Flynn T. M. (2018) Dissolved carbon dynamics in meltwaters from the Russell Glacier, Greenland Ice Sheet. *Journal of Geophysical Research-Biogeosciences*, DOI: 10.1029/2018JG004458.
22. Kristall B.\*, **Jacobson A. D.**, Sageman B. B., and Hurtgen M. T. (2018) Coupled strontium-sulfur cycle modeling and the Early Cretaceous sulfur isotope record. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 496, 305-322.
23. Andrews M. G.\* and **Jacobson A. D.** (2017) The radiogenic and stable Sr isotope geochemistry of basalt weathering in Iceland: Role of hydrothermal calcite and implications for long-term climate regulation. *Geochimica et Cosmochimica Acta*, 215, 247-262.
24. Lehn G. O.\*, **Jacobson A. D.**, Douglas T. A.#, McClelland J. W.#, Barker A.#, and Khosh M. S.# (2017) Constraining seasonal active layer dynamics and chemical weathering reactions occurring in North Slope Alaskan watersheds with major ion and isotope ( $\delta^{34}\text{S}_{\text{SO}_4}$ ,  $\delta^{13}\text{C}_{\text{DIC}}$ ,  $^{87}\text{Sr}/^{86}\text{Sr}$ ,  $\delta^{44/40}\text{Ca}$ , and  $\delta^{44/42}\text{Ca}$ ) measurements. *Geochimica et Cosmochimica Acta*, 217, 399-420.
25. Bush R. T.\*, Berke M. A., and **Jacobson A. D.** (2017) Plant Water  $\delta\text{D}$  and  $\delta^{18}\text{O}$  of Tundra Species from West Greenland. *Arctic, Antarctic, and Alpine Research*, 49, 341-358.
26. Khosh M. S.#, McClelland J. W.#, **Jacobson A. D.**, Douglas T. A.#, Barker A. J.# and Lehn G. O.\* (2017) Seasonality of dissolved nitrogen from spring melt to fall freeze-up in Alaskan Arctic tundra and mountain streams. *Journal of Geophysical Research-Biogeosciences*, DOI: 10.1002/2016JG003377.

27. Alkire M. B.<sup>#</sup>, **Jacobson A. D.**, Lehn G. O.\*<sup>#</sup>, Macdonald R. W., and Rossi M. W. (2017) On the geochemical heterogeneity of rivers draining the Canadian Arctic Archipelago. *Journal of Geophysical Research-Biogeosciences*, DOI: 10.1002/2016JG003723.
28. Mills J. V.\*<sup>#</sup>, Gomes M. L.\*<sup>#</sup>, Kristall B.\*<sup>#</sup>, Sageman B. B., **Jacobson A. D.**, and Hurtgen M. T. (2017) Massive volcanism, evaporite deposition, and the chemical evolution of the Early Cretaceous ocean. *Geology*, 45, 475-478.
29. Kristall B.\*<sup>#</sup>, **Jacobson A. D.**, and Hurtgen M. T. (2017) Modeling the Phanerozoic seawater radiogenic strontium isotope record: A case study of the Late Jurassic-Early Cretaceous. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 472, 163-176.
30. Holmden C., **Jacobson A. D.**, Sageman B. B., and Hurtgen M. T. (2016) Response of the Cr isotope proxy to Cretaceous Ocean Anoxic Event 2. *Geochimica et Cosmochimica Acta*, 186, 277-295.
31. Andrews M. G.\*<sup>#</sup>, **Jacobson A. D.**, Lehn G. O.\*<sup>#</sup>, Horton T. W., and Craw D. (2016) Radiogenic and stable Sr isotope ratios ( $^{87}\text{Sr}/^{86}\text{Sr}$ ,  $\delta^{88/86}\text{Sr}$ ) as tracers of chemical weathering and biogeochemical cycling in the Milford Sound region of Fiordland, New Zealand. *Geochimica et Cosmochimica Acta*, 173, 284-303.
32. Lemarchand D., **Jacobson A. D.**, Cividini D., Chabaux F. (2015) The major ion,  $^{87}\text{Sr}/^{86}\text{Sr}$ , and  $\delta^{11}\text{B}$  geochemistry of groundwater in the Wyodak-Anderson Coal Bed aquifer (Powder River Basin, Wyoming, USA). *Comptes Rendus Geoscience*, 347, 348-357.
33. Akire M.<sup>#</sup>, **Jacobson A. D.**, Lehn G. O.\*<sup>#</sup>, and MacDonald R. (2015) Small rivers could have big impact on Arctic Ocean. *Eos, Transactions American Geophysical Union*, 96, DOI 10.1029/2015EO034005.
34. Moore J. M.\*<sup>#</sup> and **Jacobson A. D.** (2015) Seasonally varying contributions to urban CO<sub>2</sub> in the Chicago, IL, USA region: Insights from a high-resolution CO<sub>2</sub> concentration and  $\delta^{13}\text{C}$  record. *Elementa: Science of the Anthropocene*, DOI 10.12952/journal.elementa.000052.
35. Lehn G. O.\*<sup>#</sup> and **Jacobson A. D.** (2015) Optimization of a  $^{48}\text{Ca}$ - $^{43}\text{Ca}$  double-spike MC-TIMS method for measuring Ca isotope ratios ( $\delta^{44/40}\text{Ca}$  and  $\delta^{44/42}\text{Ca}$ ): limitations from filament reservoir mixing. *Journal of Analytical Atomic Spectrometry*, 30, 1571-1581.
36. **Jacobson A. D.**, Andrews M. G.\*<sup>#</sup>, Lehn G. O.\*<sup>#</sup>, and Holmden C. (2015) Silicate versus carbonate weathering in Iceland: New insights from Ca isotopes. *Earth and Planetary Science Letters*, 416, 132-142.
37. Du Vivier A. D. C., **Jacobson A. D.**, Lehn G. O.\*<sup>#</sup>, Selby D., Hurtgen M. T., and Sageman B. B. (2015) Ca isotope stratigraphy across the Cenomanian-Turonian OAE 2: links between volcanism, seawater geochemistry, and the carbonate fractionation factor. *Earth and Planetary Science Letters*, 416, 121-131.
38. Barker A. J.<sup>#</sup>, Douglas T. A.<sup>#</sup>, **Jacobson A. D.**, McClelland J. W.<sup>#</sup>, Ilgen A. G., Khosh M. S.<sup>#</sup>, Lehn G. O.\*<sup>#</sup>, and Trainor T. P. (2014) Late season mobilization of trace metals in small Alaskan Arctic watersheds as a proxy for permafrost active layer dynamics. *Chemical Geology*, 381, 180-193.
39. Melin A. D., Crowley B. E., Brown S. T., Wheatley P. V., Moritz G. L., Tuh Yit Yu F., Bernard H., DePaolo D. J., **Jacobson A. D.**, and Dominy N. J. (2014) Calcium and carbon stable isotope ratios as paleodietary indicators. *American Journal of Physical Anthropology*, 154, 633-643.
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#### ABSTRACTS

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