

CHRISTOPHER D. ARP

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RESEARCH INTERESTS

- Landscape- and watershed-scale functions of lakes and wetlands
- Geomorphology, hydrology, and ecology of headwater streams
- Longitudinal (downstream) patterns and processes of river systems
- Community-based monitoring, citizen science, and science education
- Climate change, resource-use, and adaptive management

EDUCATION

Ecology

Utah State University – Logan, UT

Ph.D. - 2006

Watershed Science

Colorado State University - Fort Collins, CO

M.S. - 1998

Fisheries and Wildlife Biology / Environmental Studies

Iowa State University - Ames, IA

B.S. - 1994
(double major)

POSITIONS

9/16 – present

Research Associate Professor

10/10 – 8/16

Research Assistant Professor (hydrologist)

Water and Environmental Research Center, Institute of Northern Engineering

University of Alaska Fairbanks – Fairbanks, AK

10/06 – 9/10

Research Ecologist (limnologist)

Alaska Science Center, U.S. Geological Survey – Anchorage, AK

GRANTS & FELLOWSHIPS

- Sediment Fluxes in Boreal Rivers (NSF) – 2022-2025 (\$155,165) Co-I
- Community Eyes on River Ice (NASA-CSESP) – 2021-25 (\$1,568,363) Co-I
- Fresh Eyes on Ice: Connecting Arctic Communities through a Revitalized and Modernized Freshwater Ice Observation Network (NSF) – 2019-2023 (\$2,627,872) **PI**
- Causes and consequences of catastrophic lake drainage in an evolving arctic system (NSF) – 2018-2021 (\$1,488,193) **PI**
- Assessment of aquatic habitat in the arctic network of AK parklands (National Park Service) – 2015-2016 (\$40,000) Co-I
- Terrestrial Ecological Observation Network – Kuparuk (Arctic Landscape Conservation Cooperative) – 2015-2020 (\$1,005,000) **PI**
- Arctic Lake Ice Systems Science (NSF) – 2014-2017 (\$1,229,000) **PI**

GRANTS & FELLOWSHIPS (continued)

- Reconstructing Arctic lake temperature and productivity histories using lake trout (Alaska Climate Science Center and National Institute of Water Resources) – 2014-2016 (\$119,000) **PI**
- Response of an Arctic Freshwater Ecosystem to Climate and Land-use Change (Arctic Landscape Conservation Cooperative) – 2013-17 (\$531,000) **PI**
- Lake ice-out across Alaskan Lake Districts (NASA Alaska EPSCoR) – 2012-13 (\$20,000) **PI**
- Towards a Circumarctic Lake Observation Network (NSF) – 2011-15 (\$491,000) **PI**
- Past, present, and future response of western Alaska lakes and lagoons to climate warming (USFWS Western Alaska LCC) – 2012-14 (\$60,000) Co-I
- Fish Creek Watershed Hydrology (Arctic LCC) – 2011-13 (\$126,000) **PI**
- Stream monitoring and assessment, NPR-A (BLM) – 2008 - present (\$579,000) **PI**
- All-terrain Vehicle Impacts in Wrangell-St. Elias National Park (NPS) – 2008-09 (\$50,000) **PI**
- Discover Denali Research Fellowship – Beavers and the Hydrologic Landscape – 2007 (\$5,000)
- Environmental Protection Agency STAR Fellowship – 2005-06 (\$37,000 / year)
- Subsurface Science Fellowship, Inland Northwest Research Alliance – 2002-03 (\$26,500 / year)

MENTORING EXPERIENCE

- | | |
|----------------|---|
| 1/23 - present | Major advisor for Matthew Scragg (M.S. Civil Engineering) |
| 1/22 - present | Committee member for Cristina Ornelas (M.S. Natural Resources and Environment, UAF) |
| 3/20 - present | Committee member for Frances Iannucci (M.S. Biology, UAF) |
| 1/20 – 5/22 | Committee member for Natalie Tyler (Ph.D. Geosciences, UAF) |
| 2018 | REU advisor for Taylor Johaneman (Geography, U. Denver) |
| 2017 | REU advisor for Claire Simpson (Geography, UCLA) |
| 2/16 - present | Committee member for Rachel Voight (M.S. Biology, UAF) |
| 1/15 – 5/18 | Committee member for Lei Cai (Ph.D. Atmospheric Sciences, UAF) |
| 9/15 – 8/17 | Committee member for Alexa Hinzman (M.S. Civil Engineering, UAF) |
| 1/15 – 8/17 | Major advisor for Allen Bondurant (M.S. Interdisciplinary Studies, UAF) |
| 11/14 – 5/17 | Committee member for Eric Torvinen (M.S. Fisheries, UAF) |
| 9/14 – 5/17 | Committee member for Michael Windfree (M.S. Interdisciplinary Studies, UAF) |
| 5/14 – 5/15 | Committee member for Sarah Ludwig (Ph.D. Biology, UAF) |
| 5/12 – 12/16 | Committee member for Ben Gaglioti (Ph.D. Interdisciplinary Studies, UAF) |
| 11/10 – 5/15 | Committee member for Jason McFarland (M.S. Biology, UAF) |
| 10/10 – 12/13 | Committee member for Ben Jones (Ph.D. Interdisciplinary Studies, UAF) |
| 10/10 – 8/12 | Major advisor for Terezka Bendlova (M.S. Environmental Quality Science, UAF) |

TEACHING EXPERIENCE

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|--------------|---|
| 2023 | Instructor for <i>Watershed Hydrology</i> (CE 665) |
| 2021 | Guest lecturer <i>Watershed Management</i> (NRM 370) |
| 2021 | Guest lecturer <i>Our Changing Climate</i> (ACNS 125) |
| 2019-22 | Guest lecturer <i>Arctic Engineering</i> (CE 403/603) |
| 2017-20 | Guest lecturer <i>Geomorphology</i> (GEOS 304) |
| 2015-22 | Guest lecturer <i>Physical Processes in Freshwater Ecosystems</i> (FISH 694) |
| 8/05 – 12/05 | Teaching Assistant for <i>Watershed Hydrology</i> (AWER 4490/5490)
<u>Department of Aquatic, Watershed, and Earth Resources, Utah State University - Logan, UT</u> |

TEACHING EXPERIENCE (continued)

- 7/00 – 11/00 Technical Trainer for development workers in an aquaculture extension program U.S. Peace Corps - Quito, Ecuador
- 8/99 – 2/00 Instructor for *Hydrology and Water Quality* Universidad Nacional de Loja - Loja, Ecuador
- 11/98 Guest lecturer *Land-use and Water Quality* (ER 418) Department of Earth Resources, Colorado State University - Fort Collins, CO

PROFESSIONAL ORGANIZATIONS

- Alaska Chapter of American Water Resources Association
- American Geophysical Union
- Association for the Sciences of Limnology and Oceanography

PROFESSIONAL SERVICE

- Associate Editor for the journal *Hydrology Research* – 2023-present
- Earth System Science Working Group (UAF) – 2021-present
- Arctic Aquatic Research Working Group – 2020-present
- North Slope Science Initiative Science Advisory Panel Committee – 2018
- Associate Editor for the journal *Arctic, Antarctic, and Alpine Research* – 2013-present
- National Park Service Inventory and Monitoring Protocol Peer-review – 2012, 2018
- Pearl Creek STEM Night – 2017; Arctic Explorers – 2018
- Science Fair Judge, Anne Wein Elementary – 2012-14; Pearl Creek Elementary - 2018
- North Slope Rapid Ecological Assessment Technical Team Member – 2013-14
- Hydrology Working Group, Arctic Landscape Conservation Cooperative – 2010-11
- President, Alaska Chapter of the American Water Resources Assoc. (AWRA) – 2010-11
- Matanuska-Susitna Borough Wetlands Planning Committee – 2008
- President, Colorado State University Student Chapter AWRA – 1996-97
- Peer-reviewer for multiple journal including *Remote Sensing the Environment, Scientific Reports, Geosciences, Hydrological Processes, Water Resources Research, Earth Surface Processes and Landforms, Arctic, Limnology and Oceanography, Permafrost and Periglacial Processes, Environmental Management, Journal of Geophysical Research, Geophysical Research Letters, and Biogeochemistry.*

ADDITIONAL WORK EXPERIENCE

- 5/02 – 9/06 **Research Assistant and Fellow** Utah State University – Logan, UT
- 3/97 – 1/99, **Ecological Consultant** Dr. David J. Cooper, Wetland Ecologist – Boulder, CO
- 5/01 – 5/02
- 5/99 – 4/01 **Development Worker** U.S. Peace Corps / Universidad Nacional de Loja – Ecuador
- 9/96 – 2/97 **Soil Science Technician** Colorado State University – Fort Collins, CO
- 7/94 – 8/96 **Domestic Fisheries Observer** Saltwater, Inc. – Anchorage, AK
- 5/92 – 8/93 **Biological Science Technician** U.S. Fish & Wildlife Service – North Dakota

OUTREACH & MEDIA COVERAGE

- **Media Story:** *Flex your photography skills to help predict flooding* (Fairbanks News Miner) https://www.newsminer.com/news/local_news/flex-your-photography-skills-to-help-predict-flooding/article_5a498a9a-e7ce-11ed-9651-6f170092d27d.html

- Media Story: *Dry summers could mean trouble for use of lake water for North Slope ice roads, study says* (Alaska Beacon) alaskabeacon.com/2022/08/26/dry-summer-could-mean-trouble-for-use-of-lake-water-for-north-slope-ice-roads-study-says/
- Media Story: *Over 24 hours, Harry Potter Lake pulls a disappearing act on Alaska's North Slope* (Anchorage Daily News) www.adn.com/alaska-news/science/2022/08/20/over-24-hours-harry-potter-lake-pulls-a-disappearing-act-on-alaskas-north-slope/
- Radio Interview: *What shallow lakes are telling us about the changing Arctic climate* (Radio Canada International's Eye on the Arctic) www.rcinet.ca/eye-on-the-arctic/2016/07/08/what-shallow-lakes-are-telling-us-about-the-changing-arctic-climate/
- Newspaper Story: *Permafrost soil under North Slope lakes is about to thaw* (Alaska Dispatch News) www.adn.com/arctic/2016/06/17/permafrost-soil-under-north-slope-lakes-is-about-to-thaw/
- Newspaper Story: *Catching a lake in Arctic Alaska as it becomes land* (Fairbanks News Miner) www.newsminer.com/features/sundays/alaska_science_forum/catching-a-lake-in-arctic-alaska-as-it-becomes-land/article_8c19d9f8-d4ea-11e4-aa07-a7e43fbabe2e.html
- Newspaper Story: *Three weeks in the saddle, studying climate change in Alaska's Arctic* (Fairbanks News Miner) www.newsminer.com/features/sundays/alaska_science_forum/three-weeks-in-the-saddle-studying-climate-change-in-alaska/article_4db8490c-d26a-11e3-925c-001a4bcf6878.html
- Outreach Video: *First Flow of the Arctic Lake-River Science Fun Flume* www.youtube.com/watch?v=CgkEt5WbpMA
- Outreach Video: *Cold, harsh, and beautiful* www.youtube.com/channel/UC24eju8374pPpw8MCKvaFrg
- Education Video: *Drained Lake Basins on the Arctic Coastal* (Wetlands Live) www.youtube.com/watch?v=VFi9QIYwjOw
- Newspaper Story: *Arctic lakes getting a closer look* (Fairbanks News Miner) www.newsminer.com/view/full_story/18731122/
- Public Interest Video: *Alaska Coast Eroding Fast* (National Geographic News) news.nationalgeographic.com/news/2009/09/090925-alaska-coast-erosion-video.html
- Education Handout and Public Lecture: *Beavers across Denali's Hydrologic Landscape* www.nps.gov/dena/naturescience/upload/BeaverHydrology2009.pdf
- Radio Interview: *Alaska's Coast Disappearing at Record Rates* (NPR's Science Friday) sciencefriday.com/segment/03/27/2009/rapid-alaskan-erosion.html

PEER-REVIEWED PUBLICATIONS (*student publication)

79. Engram, M., Meyer, F. J., Brown, D. R. N., Clement, S., Bondurant, A. C., Spellman, K. V., . . . **Arp, C. D.** (2024). Detecting early winter open-water zones on Alaska rivers using dual-polarized C-band Sentinel-1 synthetic aperture radar (SAR). *Remote Sensing of Environment*, 305, 114096. doi:<https://doi.org/10.1016/j.rse.2024.114096>
78. Clement, S., Spellman, K., Oxtoby, L., Kealy, K., Bodony, K., Sparrow, E., & **Arp, C.** (2023). Redistributing Power in Community and Citizen Science: Effects on Youth Science Self-Efficacy and Interest. *Sustainability*, 15(11), 8876.
77. Brown, D. R. N., **Arp, C. D.**, Brinkman, T. J., Cellarius, B. A., Engram, M., Miller, M. E., & Spellman, K. V. (2023). Long-term change and geospatial patterns of river ice cover and navigability in Southcentral Alaska detected with remote sensing. *Arctic, Antarctic, and Alpine Research*, 55(1), 2241279. doi:[10.1080/15230430.2023.2241279](https://doi.org/10.1080/15230430.2023.2241279)

PEER-REVIEWED PUBLICATIONS (continued)

76. Langhorst, T., Pavelsky, T., Eidam, E., Cooper, L., Davis, J., Spellman, K., . . . Gleason, C. (2023). Increased scale and accessibility of sediment transport research in rivers through practical, open-source turbidity and depth sensors. *Nature Water*, 1(9), 760-768. doi:10.1038/s44221-023-00124-2
75. **Arp, C.D.**, Drew, K.A. and Bondurant, A.C. 2023 Observation of a rapid lake-drainage event in the Arctic: Set-up and trigger mechanisms, outburst flood behavior, and broader fluvial impacts. *Earth Surface Processes and Landforms*, 1– 15. Available from: <https://doi.org/10.1002/esp.5571>
74. Saros, J. E., **Arp, C. D.**, Bouchard, F. . . Vincent, W. F. 2023. Sentinel responses of Arctic freshwater systems to climate: linkages, evidence, and a roadmap for future research. *Arctic Science*. //doi.org/10.1139/as-2022-0021
73. **Arp, C. D.**, Engram, M., Bondurant, A. C., and Drew, K. A. 2022. Unusually thick freshwater ice and its impacts on aquatic resources in the National Petroleum Reserve in Alaska (NPR-A) during the winter of 2020–2021. *Arctic Science*. //doi.org/10.1139/as-2022-0027
72. *Torvinen, E., Falke, J., **Arp, C. D.**, Jones, B., Whitman, M., and Zimmerman, C., 2022. Lake trout (*Salvelinus namaycush*) otoliths indicate effects of climate and lake morphology on growth patterns in Arctic lakes. *Ecology of Freshwater Fish*, 32, 166–180. <https://doi.org/10.1111/eff.12678>
71. Povoroznyuk, O., Vincent, W. F., Schweitzer, P., Laptander, R., Bennett, Mia, Calmels, F., Sergeev, D., **Arp, C.**, Forbes, B, C. Roy-Léveillé, P., Walker, D. A., 2022. Arctic roads and railways: social and environmental consequences of transport infrastructure in the Circumpolar North. *Arctic Science*, 9(2): 297-330. <https://doi.org/10.1139/as-2021-0033>
70. *Gädeke, A., **Arp, C. D.**, Liljedahl, A. K., Daanen, R. P., Cai, L., Alexeev, V. A., et al., 2022. Modeled streamflow response to scenarios of tundra lake water withdrawal and seasonal climate extremes, Arctic Coastal Plain, Alaska. *Water Resources Research*, 58, e2022WR032119. <https://doi.org/10.1029/2022WR032119>
69. **Arp, C. D.**, and Whitman, M. S., 2022. Lake basins drive variation in catchment-scale runoff response over a decade of increasing rainfall in Arctic Alaska. *Hydrological Processes*, 36(5), e14583. <https://doi.org/10.1002/hyp.14583>
68. *Kurek, M. R., Frey, K. E., Guillemette, F., Podgorski, D. C., Townsend-Small, A., **Arp, C. D.**, Kellerman, A. M., and Spencer, R. G. M., 2022. Trapped under ice: Spatial and seasonal dynamics of dissolved organic matter composition in tundra lakes. *Journal of Geophysical Research: Biogeosciences*, 127, e2021JG006578. <https://doi.org/10.1029/2021JG006578>
67. Zhang, S., Pavelsky, T. M., **Arp, C. D.**, and Yang, X., 2021, Remote sensing of lake ice phenology in Alaska: *Environmental Research Letters*, v. 16, no. 6, p. 064007.
66. *Simpson, C. E., **Arp, C. D.**, Sheng, Y., Carroll, M. L., Jones, B. M., and Smith, L. C., 2021, Landsat-derived bathymetry of lakes on the Arctic Coastal Plain of northern Alaska: *Earth Syst. Sci. Data*, v. 13, no. 3, p. 1135-1150.
65. **Arp, C. D.**, J. E. Cherry, D. R. N. Brown, A. C. Bondurant, and K. L. Endres. 2020. Observation-derived ice growth curves show patterns and trends in maximum ice thickness and safe travel duration of Alaskan lakes and rivers. *The Cryosphere*, 14: 3595–3609, doi.org/10.5194/tc-14-3595-2020

PEER-REVIEWED PUBLICATIONS (continued)

64. *Johaneman, T. M., **C. D. Arp**, M. S. Whitman, A. C. Bondurant, H. B. Hamann, and M. W. Kerwin. 2020. Classifying Connectivity to Guide Aquatic Habitat Management in an Arctic Coastal Plain Watershed Experiencing Land-use and Climate Change. *Arctic, Antarctic, and Alpine Research*, 52: 476-490
63. **Arp, C. D.**, M. S. Whitman, R. Kemnitz, R., and S. L. Stuefer. 2020. Evidence of hydrological intensification and regime change from northern Alaskan watershed runoff. *Geophysical Research Letters*, 47, e2020GL089186. <https://doi.org/10.1029/2020GL089186>
62. **Arp, C. D.**, B. M. Jones, K. M. Hinkel, D. L. Kane, M. S. Whitman, R. Kemnitz. 2020. Recurring outburst floods from drained lakes: an emerging arctic hazard. *Frontiers in Ecology and the Environment*, 18(7):384-390, doi:10.1002/fee.2175
61. Jones, B. M., **C. D. Arp**, G. Grosse, et al. 2020. Identifying historical and future potential lake drainage events on the western Arctic coastal plain of Alaska. *Permafrost and Periglacial Processes*, 31: 110– 127. <https://doi.org/10.1002/ppp.2038>
60. Parksekian, A. D., A. L. Creighton, B. M. Jones, and **C. D. Arp**. 2019. Surface nuclear magnetic resonance observations of permafrost thaw below floating, bedfast, and transitional ice lakes. *Geophysics*, 84:3, EN33-EN45
59. Beaver, J. R., **Arp, C. D.**, Tausz, C. E., Jones, B. M., Whitman, M. S., Renicker, T. R., Samples, E. E., Ordosch, D. M., and Scotese, K. C., 2019. Potential shifts in zooplankton community structure in response to changing ice regimes and hydrologic connectivity. *Arctic, Antarctic, and Alpine Research*, 51(1): 327-345.
58. **Arp, C. D.**, M. S. Whitman, B. M. Jones, D. A. Nigro, V. A. Alexeev, A. Gädeke, S. Fritz, R. Daanen, A. K. Liljedahl, F. J. Adams, B. V. Gaglioti, G. Grosse, K. C. Heim, J. R. Beaver, L. Cai, M. Engram, and H. R. Uher-Koch. 2019. Ice roads through lake-rich arctic watersheds: integrating climate uncertainty and freshwater habitat responses into adaptive management. *Arctic, Antarctic, and Alpine Research* 51(1): 9-23
57. **Arp, C. D.**, Jones, B. M., Engram, M., Alexeev, V. A., Cai, L., Parsekian, A., Hinkel, K. M., Bondurant, A. C., and Creighton, A. 2018. Contrasting Lake Ice Responses to Winter Climate Indicate Future Variability and Trends on the Alaskan Arctic Coastal Plain. *Environmental Research Letters* 13(12): 125001
56. *Creighton, A. L., Parsekian, A. D., Angelopoulos, M., Jones, B. M., Bondurant, A., Engram, M., Lenz, J., Overduin, P. P., Grosse, G., Babcock, E., and **Arp, C. D.**, Transient electromagnetic surveys for the determination of talik depth and geometry beneath thermokarst lakes. *Journal of Geophysical Research: Solid Earth* 123 doi.org/10.1029/2018JB016121
55. Jones B M, Farquharson L M, Baughman C A, Buzard R M, **Arp C D**, Grosse G, Bull D L, Gunther F, Nitze I, Urban F, Kasper J, Frederick J M, Thomas M, Jones C, Mota A, Dallimore S R, Tweedie C, Maio C, Mann D H, Richmond B, Gibbs A, Xiao M, Sachs T, Iwahana G, Kanevskiy M and Romanovsky V E 2018 A decade of remotely sensed observations highlight complex processes linked to coastal permafrost bluff erosion in the Arctic. *Environmental Research Letters* 13 115001 doi.org/10.1088/1748-9326/aae471
54. *Heim, K. C., **C. D. Arp**, M. S. Whitman, and M. S. Wipfli. 2019. The complimentary role of shallow lakes and streams as foraging habitat to Arctic Grayling. *Ecology of Freshwater Fishes*. DOI: 10.1111/eff.12444

PEER-REVIEWED PUBLICATIONS (continued)

53. Tape, K. D., B. M. Jones, **C. D. Arp**, I. Nitze, G. Grosse, C. E. Zimmerman. 2018. Tundra be dammed: Beaver colonization of the Arctic. *Global Change Biology*. DOI:10.1111/gcb.14332
52. *Cai, L. Alexeev, V. A., **Arp, C. D.**, Jones, B. M., and Romanovsky, V. E. 2018. Modeling the impacts of projected sea ice decline on the low atmosphere and near-surface permafrost on the North Slope of Alaska. *International Journal of Climatology*. DOI:10.1002/joc.5741
51. Engram, M., **C. D. Arp**, B. M. Jones, O. A. Ajadi, and F. J. Meyer. 2018. Analyzing floating and bedfast lake ice regimes across Arctic Alaska using 25 years of space-borne SAR imagery. *Remote Sensing of Environment* 209:660-676. doi.org/10.1016/j.rse.2018.02.022
50. Elder, C. D., X. Xu, J. Walker, J. L. Schnell, K. M. Hinkel, A. Townsend-Small, **C. D. Arp**, J. W. Pohlman, B. V. Gaglioti, and C. I. Czimczik. 2018. Greenhouse gas emissions from diverse Arctic Alaskan lakes are dominated by young carbon. *Nature Climate Change* 8:166-171.
49. *Cai, L., V. A. Alexeev, **C. D. Arp**, B. M. Jones, A. Liljedahl, A. Gädeke. 2018. The polar WRF downscaled historical and projected 21st century climate for the coast and foothills of Arctic Alaska. *Frontiers in Earth Science-Atmospheric Science*. doi.org/10.3389/feart.2017.00111
48. Townsend-Small, A., F. Akerstrom, **C. D. Arp**, K. M. Hinkel. 2017. Spatial and temporal variation in methane concentrations, fluxes, and sources in lakes in Arctic Alaska. *Journal of Geophysical Research: Biogeosciences*, 122, 2966–2981. doi.org/10.1002/2017JG004002
47. Stuefer, S. L., **C. D. Arp**, D. L. Kane, and A. K. Liljedahl. 2017. Recent extreme runoff observations from coastal Arctic watersheds in Alaska. *Water Resources Research*. 53, 9145–9163. <https://doi.org/10.1002/2017WR020567>
46. Nitze, I., Grosse, G., Jones, B. M., **Arp, C. D.**, Ulrich, M., Fedorov, A. M., and Veremeeva, A. 2017. Landsat-based trend analysis of lake dynamics across northern permafrost regions. *Remote Sensing* 9 (640):1-28. DOI:10.3390/rs9070640
45. Jones, B. M., **C. D. Arp**, M. S. Whitman, D. Nigro, I. Nitze, J. Beaver, A. Gadeke, C. Zuck, A. Liljedahl, R. Daanen, E. Torvinen, S. Fritz, G. Grosse. 2017. A lake cover classification to guide research and inform management decisions in an arctic watershed in northern Alaska experiencing climate and land-use change. *Ambio*. DOI:10.1007/s13280-017-0915-9
44. MacDonald, L. A., B. B. Wolf, K. W. Turner, L. Anderson, **C. D. Arp**, S. J. Birks, F. Bouchard, T. W. D. Edwards, N. Farquharson, R. I. Hall, I. McDonald, B. Narancic, C. Ouimeth, R. Pienitz, J. Tondug, and H. White. 2016. A synthesis of thermokarst lake water balance in high-latitude regions of North America from isotope tracers. *Arctic Science*. DOI:10.1139/AS-2016-0019.
43. Lenz, J., B. M. Jones, S. Wetterich, R. Tjallingii, M. Fritz, **C. D. Arp**, N. Rudaya, G. Grosse. 2016. Impacts of shore expansion and catchment characteristics on lacustrine thermokarst records in permafrost lowlands, Alaska Arctic Coastal Plain. *Arktos*. DOI:10.1007/s41063-016-0025-0
42. Baker, M. A., **C. D. Arp**, K. Goodman, A. Marcarelli, and W. Wurtbaugh. 2016. Effects of lakes on stream functioning. in Stanley, E. and J. Jones, editors. *Streams in a Changing Environment*. Elsevier.
41. Alexeev, V. A., **C. D. Arp**, B. M. Jones, L. Cai. 2016. Arctic sea ice decline contributes to thinning lake ice trend in northern Alaska. *Environmental Research Letters*. DOI:10.1088/1748-9326/11/7/074022

PEER-REVIEWED PUBLICATIONS (continued)

40. **Arp, C. D.**, B. M. Jones, G. Grosse, A. C. Bondurant, V. E. Romanovsky, K. E. Hinkel, and A. Parsekian. 2016. Threshold sensitivity of shallow arctic lakes and sub-lake permafrost to changing winter climate. *Geophysical Research Letters*. DOI:1002/20016GL06506
39. Hinkel, K., **C. D. Arp**, A. Townsend-Small, and K. Frey. 2015. Can deep groundwater influx be detected from the geochemistry of thermokarst lakes in Arctic Alaska? *Permafrost and Periglacial Processes*. DOI:10.1002/ppp.1895
38. **Arp, C. D.**, B. M. Jones, A. K. Liljedahl, K. M. Hinkel, and J. A. Welker. 2015. Depth, ice thickness, and ice-out timing cause divergent hydrologic responses among Arctic lakes. *Water Resources Research*. DOI:1002/2015WR017362
37. Jones, B. M., G. Grosse, **C. D. Arp**, E. Miller, L. Liu, D. J. Hayes, and C. F. Larsen. 2015. Recent Arctic tundra fire initiates widespread thermokarst development. *Scientific Reports*. DOI:10.1038/srep15865
36. Leppi, J. C., **C. D. Arp**, and M. S. Whitman. 2015. Predicting late winter dissolved oxygen levels in Arctic lakes using morphology and landscape metrics. *Environmental Management*. DOI:10.1007/s00267-015-0622-x
35. *Heim, K. C., M. S. Wipfli, M. S. Whitman, **C. D. Arp**, J. Adams, and J. A. Falke. 2015. Environmental cues of Arctic grayling seasonal movement in a small Arctic stream: the importance of surface water connectivity. *Environmental Biology of Fishes* DOI 10.1007/s10641-015-0453-x
34. Jones, B.M. and **C. D. Arp**. 2015. Observing a catastrophic thermokarst lake drainage in northern Alaska. *Permafrost and Periglacial Processes* 26(2): 119-128. DOI: 10.1002/ppp.1842
33. **Arp, C. D.**, M. S. Whitman, B. M. Jones, G. Grosse, B. V. Gaglioti, and K. C. Heim. 2015. Distribution and biophysical processes of beaded streams of Arctic permafrost landscapes. *Biogeosciences* 12: 1-19.
32. Jones, B. M., A. L. Breen, B. V. Gaglioti, D. H. Mann, A. V. Rocha, G. Grosse, **C. D. Arp**, M. L. Kunz, and D. A. Walker. 2013. Identification of unrecognized tundra fire event on the North Slope of Alaska. *Journal of Geophysical Research: Biogeosciences* 118: 1-11.
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