

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
- Phenology, ice dynamics, and water balance of shallow lakes
- Longitudinal (downstream) patterns and processes of river systems
- 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	Associate Research Professor (hydroecologist)
10/10 – 8/16	Research Assistant Professor (hydroecologist) <u>Water and Environmental Research Center, Institute of Northern Engineering</u> <u>University of Alaska Fairbanks</u> – Fairbanks, AK
10/06 – 9/10	Research Ecologist (limnologist) <u>Alaska Science Center, U.S. Geological Survey</u> – Anchorage, AK

GRANTS & FELLOWSHIPS

- 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**
- 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**

GRANTS & FELLOWSHIPS (continued)

- 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)

TEACHING / MENTORING EXPERIENCE

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|----------------|--|
| 4/16 - 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) |
| 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> |
| 7/00 – 11/00 | Technical Trainer for development workers in an aquaculture extension program <u>U.S. Peace Corps - Quito, Ecuador</u> |
| 8/99 – 2/00 | Instructor for <i>Hydrology and Water Quality</i> <u>Universidad Nacional de Loja - Loja, Ecuador</u> |
| 11/98 | Guest lecturer <i>Land-use and Water Quality</i> (ER 418) <u>Department of Earth Resources, Colorado State University - Fort Collins, CO</u> |

PROFESSIONAL ORGANIZATIONS

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

PROFESSIONAL SERVICE

- North Slope Science Initiative Science Advisory Panel Committee – 2019-present
- 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

PROFESSIONAL SERVICE (continued)

- 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 *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

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

OUTREACH & MEDIA COVERAGE

- **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=VF9QIYwjOw
- **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)

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. 2018. The complimentary role of shallow lakes and streams as foraging habitat to Arctic Grayling. *Ecology of Freshwater Fishes*. DOI: 10.1111/eff.12444
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>

PEER-REVIEWED PUBLICATIONS (continued)

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
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

PEER-REVIEWED PUBLICATIONS (continued)

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.
31. Jones, B. M., A. Gusmeroli, **C. D. Arp**, T. Strozzi, G. Grosse, B. V. Gaglioti, and M. S. Whitman. 2013. Classification of freshwater ice conditions on the Alaskan Arctic Coastal Plain using ground penetrating radar and TerraSAR-X satellite data. *International Journal of Remote Sensing* 34(23): 8253-8265.
30. **Arp, C. D.**, B. M. Jones, and G. Grosse. 2013. Recent lake ice-out phenology within and among lake districts of Alaska, U.S.A. *Limnology and Oceanography* 58(6): 2013-2028.
29. Beck, R.A., K.M. Hinkel, W.R. Eisner, D. Whiteman, **C.D. Arp**, R. Machida, C. Cuomo, H. Liu, C. Kim, A. J. Rettig, C. Ivenso, B. Yang, Q. Wu, H. Su, S. Wang, K. Frey, J. D. Lenters, B. L. Potter. 2013. Contrasting Historical and Recent Breakup Styles on the Meade River of Arctic Alaska in the Context of a Warming Climate. *American Journal of Climate Change* 2(2): 165-172.
28. Grosse, G., B. Jones, and **C. Arp**. 2013. Thermokarst Lake, Drainage, and Drained Basins. Pages 1-29 in J. Shroder, R. Giardino, and J. Harbor, editors. *Treatise on Geomorphology*. Academic Press, San Diego, CA.
27. **Arp, C. D.**, M. S. Whitman, B. M. Jones, R. Kemnitz, G. Grosse, and F. E. Urban. 2012. Drainage network structure and hydrologic behavior of three lake-rich watersheds on the Arctic Coastal Plain, Alaska. *Arctic, Antarctic, and Alpine Research* 44(4): 385-398.
26. **Arp, C.D.**, B.M. Jones, Z. Lu, and M.S. Whitman. 2012. Shifting balance of thermokarst lake ice regimes across the Arctic Coastal Plain of northern Alaska. *Geophysical Research Letters* 39 (L16503):1-5.
25. **Arp, C. D.** and T. Simmons. 2012. Analyzing the impacts of off-road vehicles (ORV) trails on watershed processes in Wrangell - St. Elias National Park and Preserve, Alaska. *Environmental Management* 49: 751-766.
24. Jones, B. M., G. Grosse, K. M. Hinkel, **C. D. Arp**, S. Walker, R. A. Beck, and J. P. Galloway. 2012. Assessment of pingo distribution and morphometry using an IfSAR derived digital surface model, western Arctic Coastal Plain, Northern Alaska. *Geomorphology* 138:1-14.
23. Jones, B. M., G. Grosse, **C. D. Arp**, M. C. Jones, K. M. W. Anthony, and V. Romanovsky. 2011. Modern thermokarst lake dynamics in the continuous permafrost zone, northern Seward Peninsula, Alaska, USA. *Journal of Geophysical Research* 116:1-13.
22. **Arp, C.D.**, Jones, B.M., Urban, F.E., Grosse, G. 2011, Hydrogeomorphic processes of thermokarst lakes with grounded-ice and floating-ice regimes on the Arctic coastal plain, Alaska. *Hydrological Processes* 25(15):2422-2438.
21. Ravens, T. M., B. M. Jones, J. Zhang, **C. D. Arp**, and J. A. Schmutz. 2011. Process-based coastal erosion modeling for Drew Point (North Slope, Alaska). *Journal of Waterway, Port, Coastal, and Ocean Engineering*. DOI: 10.1061/(ASCE)WW.1943-5460.0000106.

PEER-REVIEWED PUBLICATIONS (continued)

20. Beck, R.A., Rettig, A.J., Ivenso, C. Eisner, W.R., Hinkel, K.M., Jones, B.M., **Arp, C.D.**, Grosse, G., Whiteman, D. 2010. Sikuliqirug: ice dynamics of the Meade River – Arctic Alaska, from freezeup to breakup from time-series ground imagery. *Polar Geography* 33(3-4):115-137.
19. **Arp, C.D.**, Jones, B.M., Schmutz, J.A., Urban, F.E., Jorgenson, M.T. 2010. Two mechanisms of aquatic and terrestrial habitat change along an Alaska Arctic coastline. *Polar Biology* 33(12): 1629-1640.
18. **Arp, C.D.**, Jones, B.M., Whitman, M., Larsen, A., Urban, F.E. 2010. Lake temperature and ice cover regimes in the Alaskan Subarctic and Arctic: Integrated monitoring, remote sensing, and modeling. *Journal of the American Water Resources Association*, 46(4): 777-791.
17. Jones, B.M., **Arp, C.D.**, Beck, R.A., Grosse, G., Webster, J., and Urban, F.E. 2009. Erosional history of Cape Halkett and contemporary monitoring of bluff retreat, Beaufort Sea coast, Alaska. *Polar Geography*, 32:129-142.
16. Hall, R.O., Baker, M.A., **Arp, C.D.**, and Koch, B.J. 2009. Hydrologic control of nitrogen removal, storage, and export in a mountain stream. *Limnology and Oceanography*, 54(6):2128-2142
15. Jones, B.M., Kolden, C.A., Jandt, R., Abatzoglou, J.T., Urban, F.E., and **Arp, C.D.** 2009. Fire behavior, weather, and burn severity of the 2007 Anaktuvuk River tundra fire, North Slope, Alaska. *Arctic, Antarctic, and Alpine Research*, 41 (3):309-316
14. MacKay, M.D., Neal, P.J., **Arp, C.D.**, De Senerpont Domis, L.N., Fang, X., Gal, G., Jöhnk, K., Kirillin, G., Lenters, J.D., Litchman, E., MacIntyre, S., Marsh, P., Melack, J., Mooij, W.M., Peeters, F., Quesada, A., Schladow, S.G., Schmid, M., Spence, C., and Stokes, S.L. 2009. Modeling lakes and reservoirs in the climate system. *Limnology and Oceanography*, 54(6, part 2): 2315-2329.
13. Jones, B.M., **Arp, C.D.**, Jorgenson, M.T., Hinkel, K.M., Schmutz, J.A., and Flint, P.L. 2009. Increase in the rate and uniformity of coastline erosion in Arctic Alaska. *Geophysical Research Letters*, 36 (L03503:1-5).
12. Briggs, M.A., Gooseff, M.N., **Arp, C.D.**, and Baker, M.A. 2009. A method for estimating surface transient storage parameters for streams with concurrent hyporheic storage. *Water Resources Research*, 45(W00D27):1-13.
11. Jones, B.M., **Arp, C.D.**, Hinkel, K.M., Beck, R.A., Schmutz, J.A., and Winston, B. 2009. Arctic lake physical processes and regimes with implications for winter water availability and management in the National Petroleum Reserve Alaska. *Environmental Management*, 43:1071-1084.
10. Jones, B.M., K.M. Hinkel, **C.D. Arp**, W.R. Eisner. 2008. Modern erosion rates and loss of coastal features and sites, Beaufort Sea coastline, Alaska. *Arctic*, 61(4):361-372.
9. Jones, B.M., R. Rhykus, Z. Lu, **C.D. Arp**, D. Selkowitz. 2008. Radar imaging of winter seismic activity in the National Petroleum Reserve, Alaska. *Polar Record*, 44(2):1-5.
8. Alessa, L, A. Kliskey, R. Lammers, **C. Arp**, D. White, L. Hinzman, and R. Busey. 2008. The arctic water resources vulnerability index: an integrated assessment tool for community resilience and vulnerability with respect to freshwater. *Environmental Management*, 42:523-541.
7. **Arp, C.D.** and M.A. Baker. 2007. Discontinuities in stream nutrient uptake below lakes in mountain drainage networks. *Limnology and Oceanography*, 52: 1978-1990.

PEER-REVIEWED PUBLICATIONS (continued)

6. Myers, A.K., A.M. Marcarelli, **C.D. Arp**, M.A. Baker, W.A. Wurtsbaugh. 2007. Disruption of stream sediment size and stability by lakes in mountain watersheds: potential effects on periphyton biomass. *Journal of the North American Benthological Society*, 26(3): 390-400.
5. **Arp, C.D.**, J.C. Schmidt., M.A. Baker, and A. Myers. 2007. Stream geomorphology in a mountain lake district: hydraulic geometry, sediment sources and sinks, and downstream effects. *Earth Surface Processes and Landforms*, 32(4): 525-543.
4. **Arp, C.D.**, M.N. Gooseff, M.A. Baker, and W. Wurtsbaugh. 2006. Surface-water hydrodynamics and regimes of a small mountain stream-lake ecosystem. *Journal of Hydrology*, 329: 500-513.
3. **Arp, C.D.** and D.J. Cooper. 2004. Analysis of sediment retention in western riverine wetlands: the Yampa River Watershed, Colorado. *Environmental Management*, 33(3):318-330.
2. Cooper, D.J., R.A. Andrus, and **C.D. Arp**. 2002. *Sphagnum balticum* in a Southern Rocky Mountain iron fen. *Madrono*, 49(3):186-188.
1. **Arp, C.D.**, D.J. Cooper, and J.D. Stednick. 1999. The effects of heavy metals from acid rock drainage on *Carex aquatilis* leaf litter decomposition in Rocky Mountain fens. *Wetlands*, 19(3):665 - 674.

PUBLICATIONS IN PREPARATION, REVIEW, OR REVISION

- Arp, C. D., B. M. Jones, K. M. Hinkel, D. L. Kane, M. S. Whitman, R. Kemnitz. In Review. Recurring outburst floods from drained lakes: an emerging arctic hazard. *Frontiers in Ecology and the Environment*.
- Beaver, J., C. D. Arp, B. M. Jones, M. S. Whitman, T. Renciker, E. Samples, D. Ordosch, K. Scotess. In Review. Top-down Control of Plankton Community Composition and Size Structure in Arctic Lakes Reveal Responses to Changing Ice and Hydrologic Connectivity. *Global Change Biology*.
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- *39. Arp, C. D. 2018. People, Places, and Processes in Arctic Alaska: A Research Program for the New Arctic *1st Annual Collaborators, Innovators, Researchers, and Colleagues in Alaska (CIRCA)*, University of Alaska Fairbanks, Fairbanks, AK
- *38. Arp, C. D. 2018. Loons, Lakes, and Beyond: Understanding Drainage Networks & Lake Basin Dynamics of Loony Landscapes, *National Parks Service Inventory and Monitoring Loon Working Group Meeting*, Fairbanks, AK

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- *37. Arp, C. D. 2018. Consequences of Catastrophic Lake Drainage: Will Ghost Lakes Increasingly Haunt the New Arctic during Snowmelt? *Water and Environmental Research Center Seminar*, Fairbanks, AK
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