

Christopher J. Cox, Ph.D.

Physical Scientist
National Oceanic and Atmospheric Administration (NOAA)
Physical Sciences Laboratory (PSL)
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Research Interests

polar meteorology, cloud processes, surface energy budget/radiation, sea ice and snow cover, spatial analysis, model validation, climate, field measurements and instrumentation

Education

Ph.D. - University of Idaho, Moscow, Environmental Science, 2013
M.S. - University of Idaho, Moscow, Geography, 2009
B.A., University of Maine, Orono, Anthropology, 2006

Appointments

2019-, Physical Scientist, NOAA Physical Sciences Laboratory
2017-19, Research Scientist II, Cooperative Institute for Research in Environmental Sciences
2014-17, Research Scientist I, Cooperative Institute for Research in Environmental Sciences
2013-14, Postdoctoral Visiting Fellow, Cooperative Institute for Research in Environmental Sciences
2007-13, Research Assistant, Geography Dept., University of Idaho

Fieldwork

2020 Jan-June: *MOSAic Leg 3, R/V Polarstern, Atlantic sector, CAO*
2019 Sep-Oct: *MOSAic Leg 1A distributed network, R/V Akademik Fedorov, Laptev sector, CAO*
2018 October: *SODA/UAS, Kuparuk/Oliktok Pt., Alaska*
2018 July: *D-ICE decommission, Barrow, Alaska*
2018 January: *D-ICE, Barrow, Alaska*
2017 Aug: *Deployment of D-ICE, Barrow, Alaska*
2017 June: *Maintenance of radiometric measurements Alert, Nunavut, Canada*
2016 Jul-Aug: *Deployment, maintenance of flux tower at Eureka, Nunavut, Canada*
2016 Oct: *Deployment, maintenance of flux tower at Alert, Nunavut, Canada*
2016 Feb-Mar: *Radiosonde technician, R/V Ron Brown, equatorial Pacific*
2014 July: *CIBS project deployment, snow samples, firn cores, Summit Station, Greenland*
2012 July: *ICECAPS maintenance and outreach, Summit Station, Greenland*
2011 Feb-Apr: *ICECAPS field technician (winter Phase III), Summit Station, Greenland*
2010 May-Jun: *ICECAPS deployment team member, Summit Station, Greenland*

Fellowships and Awards

CIRES Postdoc Visiting Fellowship, 2013-2014

Outstanding Doctoral Research and Creativity Activity Award, Univ. Idaho, 2013

Selected Publications

- Cox, C.J., S.M. Morris, T. Uttal, R. Burgener, E. Hall, M. Kutchenreiter, A. McComiskey, C.N. Long, B.D. Thomas and J. Wendell, The De-Icing Comparison Experiment: A study of broadband radiometric measurement under icing conditions in the Arctic, *Atmos. Meas. Tech. Disc.*, <https://doi.org/10.5194/amt-2020-397>
- Cox, C.J., R. Stone, D. Douglas, D. Stanitski, and M. Gallagher (2019) The Aleutian Low – Beaufort Sea Anticyclone: A climate index correlated with seasonal melt in the Pacific Arctic cryosphere, *Geophys. Res. Lett.*, **46**, GRL59183, <https://doi.org/10.1029/2019GL083306>
- de Boer, G., C.J. Cox, and J. Creamean (2019) Accelerated springtime melt of northern Alaska river systems resulting from niveo-aeolian deposition events, *Arctic*, **72**, 245-257, <https://doi.org/10.14430/arctic68654>
- Cox, C.J., D.C. Noone, M. Berkelhammer, M.D. Shupe, W.D. Neff, N.B. Miller, V.P. Walden, and K. Steffen (2019) Supercooled liquid fogs over the central Greenland ice sheet, *Atmos. Chem. Phys.*, **19**, 7467-7485, <https://doi.org/10.5194/acp-19-7467-2019>
- Hartten, L.M., C.J. Cox, P.E. Johnston, and D.E. Wolfe (2018) Ship- and island-based soundings from the 2016 El Niño Rapid Response field campaign, *Earth Sys. Sci. Data*, **10**, 1165-1183, <https://doi.org/10.5194/essd-10-1165-2018>
- Mungall, E.L., J.P.D. Abbatt, J.J.B. Wentzell, G.R. Wentworth, J.G. Murphy, D. Kunkel, E. Gute, D.W. Tarasick, S. Sharma, C.J. Cox, T. Uttal, and J. Liggio (2018) High gas-phase mixing ratios of formic and acetic acid in the High Arctic, *Atmos. Chem. Phys.*, **18**, 10237-10254, <https://doi.org/10.5194/acp-2018-10237-2018>
- Grachev, A., P.O.G. Persson, T. Uttal, E.A. Akish, C.J. Cox, S.M. Morris, C.W. Fairall, R.S. Stone, G. Lesins, A.P. Makshtas, and I.A. Repina (2017) Seasonal and latitudinal variations of surface fluxes at Arctic terrestrial sites, *Climate Dyn.*, **51**, 1793-1818, <https://doi.org/10.1007/s00382-017-3983-4>
- Cox, C.J., R.S. Stone, D. Stanitski, D. Douglas, G. Divoky, G. Dutton, C. Sweeney and C. George, (2017) Drivers and environmental responses to the changing annual snow cycle of northern Alaska, *Bull. Am. Met. Soc.*, **98**, 2559-2577, <https://doi.org/10.1175/BAMS-D-16-0201.1>
- Miller, N., M. Shupe, C.J. Cox, D. Noone, P.O.G. Persson, and K. Steffen, (2017), Surface energy budget responses to radiative forcing at Summit, Greenland, *The Cryosphere*, **11**, 497-516, <https://doi.org/10.5194/tc-2016-206>
- Cox, C.J., T. Uttal, C.N. Long, M.D. Shupe, R.S. Stone, and S. Starkweather, (2016) The role of

springtime Arctic clouds in determining autumn sea ice extent, *J. Climate*, **29**, 6581-6596, <https://doi.org/10.1175/JCLI-D-16-0136.1>

Berkelhammer, M., D. Noone, H.C. Steen-Larson, M. O'Neill, A. Bailey, C. Cox, D. Schneider, K. Steffen, and J.C. White, (2016) Surface-atmosphere decoupling limits accumulation over Greenland, *Science Adv.*, **2**, e1501704, <https://doi.org/10.1126/sciadv.1501704>

Cox, C.J., V.P. Walden, P.M. Rowe, and M.D. Shupe, (2015) Humidity trends imply increased sensitivity to clouds in a warming Arctic, *Nature Comms.*, **6**, 1-8, <https://doi.org/10.1038/ncomms10117>

Miller, N., M. Shupe, C.J. Cox, V.P. Walden, and K. Steffen, (2015) Cloud Radiative Forcing at Summit, Greenland, *J. Climate*, **28**, 6267-6280, <https://doi.org/10.1175/JCLI-D-15-0076.1>

Cox, C.J., V.P. Walden, G.P. Compo, P.M. Rowe, M.D. Shupe, and K. Steffen, (2014), Wavelet analysis of downwelling longwave flux and cloud radiative forcing from surface observations and ERA-Interim over Summit, Greenland, *J. Geophys. Res.*, **119**(21), 12317-12337, <https://doi.org/10.1002/2014JD021975>

Cox, C.J., D.D. Turner, V.P. Walden, M. Shupe, and P.M. Rowe, (2014) Cloud microphysical properties retrieved from downwelling infrared radiance measurements made at Eureka, Nunavut, Canada 2006-2009, *J. Appl. Met. Clim.*, **53**, 772-790, <https://doi.org/10.1175/JAMC-D-13-0113.1>

Bennartz, R., M.D. Shupe, D.D. Turner, V.P. Walden, K. Steffen, C.J. Cox, M.S. Kulie, N.B. Miller, C. Pettersen, (2013) July 2012 Greenland melt extent enhanced by low-level liquid clouds, *Nature*, **496**, 83-86. <https://doi.org/10.1038/nature12002>