

# Kenneth D. Mankoff

<http://kenmankoff.com>

## PROFESSIONAL EXPERIENCE

2023 -	NASA GISS	Senior Scientific Programmer
2022	CIRES & NSIDC (CU Boulder)	Senior Scientist & Software Developer
2017-2022	Geological Survey of Denmark & Greenland	Senior Scientist
2015-2017	Pennsylvania State University	Research Associate
2013-15	Woods Hole Oceanographic Institution	Postdoctoral Scholar
2009-13	University of California, Santa Cruz	Graduate Research Assistant
2004-09	Columbia University, NASA GISS	Programmer / Analyst
2003-04	Honeybee Robotics	Technology Development
2001-02	Laboratory for Atmospheric and Space Physics	Professional Research Assistant
1998-01	Laboratory for Atmospheric and Space Physics	Undergraduate Research Assistant

## EDUCATION

2013 Ph.D.	University of California, Santa Cruz	Earth and Planetary Science
2003	École Polytechnique Fédérale de Lausanne	Microtechnology & Robotics
2001 B.S.	University of Colorado, Boulder	Computer Science

## JOURNAL PAPERS (h-index: 30; Erdős: 3; <https://goo.gl/yJCdV6>)

- [J56] M. Wood, A. Khazendar, I. Fenty, **K. Mankoff**, A. T. Nguyen, K. Schulz, J. K. Willis, and H. Zhang. “Decadal Evolution of Ice-Ocean Interactions at a Large East Greenland Glacier Resolved at Fjord Scale With Downscaled Ocean Models and Observations”. *Geophysical Research Letters*. 2024, 51 (7). doi: [10.1029/2023gl107983](https://doi.org/10.1029/2023gl107983).
- [J55] R. N. Ing, P. W. Nienow, A. J. Sole, A. J. Tedstone, and **K. D. Mankoff**. “Minimal Impact of Late-Season Melt Events on Greenland Ice Sheet Annual Motion”. *Geophysical Research Letters*. 2024, 51 (4). doi: [10.1029/2023gl1106520](https://doi.org/10.1029/2023gl1106520).
- [J54] L. A. Roach, **K. D. Mankoff**, A. Romanou, E. Blanchard-Wrigglesworth, T. W. N. Haine, and G. A. Schmidt. “Winds and Meltwater Together Lead to Southern Ocean Surface Cooling and Sea Ice Expansion”. *Geophysical Research Letters*. 2023, 50 (24). doi: [10.1029/2023gl1105948](https://doi.org/10.1029/2023gl1105948).
- [J53] G. A. Schmidt, A. Romanou, L. A. Roach, **K. D. Mankoff**, Q. Li, C. D. Rye, M. Kelley, J. C. Marshall, and J. J. M. Busecke. “Anomalous Meltwater From Ice Sheets and Ice Shelves Is a Historical Forcing”. *Geophysical Research Letters*. 2023, 50 (24). doi: [10.1029/2023gl1106530](https://doi.org/10.1029/2023gl1106530).
- [J52] B. Vandecrux, J. E. Box, A. P. Ahlstrøm, S. B. Andersen, N. Bayou, W. T. Colgan, N. J. Cullen, R. S. Fausto, D. Haas-Artho, A. Heilig, D. A. Houtz, P. How, I. Iosifescu Enescu, N. B. Karlsson, R. Kurup Buchholz, **K. D. Mankoff**, D. McGrath, N. P. Molotch, B. Perren, M. K. Revheim, A. Rutishauser, K. Sampson, M. Schneebeli, S. Starkweather, S. Steffen, J. Weber, P. J. Wright, H. J. Zwally, and K. Steffen. “The historical Greenland Climate Network (GC-Net) curated and augmented level-1 dataset”. *Earth System Science Data*. 2023, 15 (12), 5467–5489. doi: [10.5194/essd-15-5467-2023](https://doi.org/10.5194/essd-15-5467-2023).

- [J51] A. Løkkegaard, **K. D. Mankoff**, C. Zdanowicz, G. D. Clow, M. P. Lüthi, S. H. Doyle, H. H. Thomsen, D. Fisher, J. Harper, A. Aschwanden, B. M. Vinther, D. Dahl-Jensen, H. Zekollari, T. Meierbachtol, I. McDowell, N. Humphrey, A. Solgaard, N. B. Karlsson, S. A. Khan, B. Hills, R. Law, B. Hubbard, P. Christoffersen, Jacquemart, Mylène, J. Seguinot, R. S. Fausto, and W. T. Colgan. “Greenland and Canadian Arctic ice temperature profiles database”. *The Cryosphere*. **2023**, 17 (9), 3829–3845. doi: [10.5194/tc-17-3829-2023](https://doi.org/10.5194/tc-17-3829-2023).
- [J50] N. B. Karlsson, **K. D. Mankoff**, A. M. Solgaard, S. H. Larsen, P. R. How, R. S. Fausto, and L. S. Sørensen. “A data set of monthly freshwater fluxes from the Greenland ice sheet’s marine-terminating glaciers on a glacier–basin scale 2010–2020”. *GEUS Bulletin*. **2023**, 53. doi: [10.34194/geusb.v53.8338](https://doi.org/10.34194/geusb.v53.8338).
- [J49] P. R. How, P. J. Wright, **K. D. Mankoff**, B. Vandecrux, R. S. Fausto, and A. P. Ahlstrøm. “pypromice: A Python package for processing automated weather station data”. *Journal of Open Source Software*. **2023**, 8 (86), 5298. doi: [10.21105/joss.05298](https://doi.org/10.21105/joss.05298).
- [J48] M. Siegfried, R. Venturelli, M. Patterson, W. Arnuk, T. Campbell, C. Gustafson, A. Michaud, B. Galton-Fenzi, M. Hausner, S. Holzschuh, B. Huber, **K. D. Mankoff**, D. Schroeder, P. Summers, S. Tyler, S. Carter, H. Fricker, D. Harwood, A. Leventer, B. Rosenheim, M. Skidmore, and J. P. and. “The life and death of a subglacial lake in West Antarctica”. *Geology*. **2023**, 51 (5), 434–438. doi: [10.1130/g50995.1](https://doi.org/10.1130/g50995.1).
- [J47] W. Colgan, C. Shields, P. Talalay, X. Fan, A. P. Lines, J. Elliott, H. Rajaram, **K. Mankoff**, M. Jensen, M. Backes, Y. Liu, X. Wei, N. B. Karlsson, H. Spanggård, and A. Ø. Pedersen. “Design and performance of the Hotrod melt-tip ice-drilling system”. *Geoscientific Instrumentation, Methods and Data Systems*. **2023**, 12 (2), 121–140. doi: [10.5194/gi-12-121-2023](https://doi.org/10.5194/gi-12-121-2023).
- [J46] E. F. Møller, A. Christensen, J. Larsen, **K. D. Mankoff**, M. H. Ribergaard, M. Sejr, P. Wallhead, and M. Maar. “The sensitivity of primary productivity in Disko Bay, a coastal Arctic ecosystem, to changes in freshwater discharge and sea ice cover”. *Ocean Science*. **2023**, 19 (2), 403–420. doi: [10.5194/os-19-403-2023](https://doi.org/10.5194/os-19-403-2023).
- [J45] B. Hasholt, T. F. Nielsen, **K. D. Mankoff**, V. Gkinis, and I. Overeem. “Sediment concentrations and transport in icebergs, Scoresby Sound, East Greenland”. *Hydrological Processes*. **2022**, 36 (10). doi: [10.1002/hyp.14668](https://doi.org/10.1002/hyp.14668).
- [J44] M. K. Sejr, A. Bruhn, T. Dalsgaard, T. Juul-Pedersen, C. A. Stedmon, M. Blicher, L. Meire, **K. D. Mankoff**, and J. Thyrring. “Glacial meltwater determines the balance between autotrophic and heterotrophic processes in a Greenland fjord”. *Proceedings of the National Academy of Sciences*. **2022**, 119 (52). doi: [10.1073/pnas.2207024119](https://doi.org/10.1073/pnas.2207024119).
- [J43] J. E. Box, A. Hubbard, D. B. Bahr, W. T. Colgan, X. Fettweis, **K. D. Mankoff**, A. Wehrlé, B. Noël, M. R. van den Broeke, B. Wouters, A. A. Bjørk, and R. S. Fausto. “Greenland ice sheet climate disequilibrium and committed sea-level rise”. *Nature Climate Change*. **2022**, 12 (9), 808–813. doi: [10.1038/s41558-022-01441-2](https://doi.org/10.1038/s41558-022-01441-2).
- [J42] M. Oksman, A. B. Kvorning, S. H. Larsen, K. K. Kjeldsen, **Mankoff, K. D.**, W. Colgan, T. J. Andersen, N. Nørgaard-Pedersen, M.-S. Seidenkrantz, N. Mikkelsen, and S. Ribeiro. “Impact of freshwater runoff from the southwest Greenland Ice Sheet on fjord productivity since the late 19th century”. *The Cryosphere*. **2022**, 16 (6), 2471–2491. doi: [10.5194/tc-16-2471-2022](https://doi.org/10.5194/tc-16-2471-2022).
- [J41] W. Colgan, A. Wansing, **K. D. Mankoff**, M. Lösing, J. Hopper, K. Louden, J. Ebbing, F. G. Christiansen, T. Ingeman-Nielsen, L. C. Liljedahl, J. A. MacGregor, Á. Hjartarson, S. Bernstein, N. B. Karlsson, S. Fuchs, J. Hartikainen, J. Liakka, R. S. Fausto, D. Dahl-Jensen, A. Bjørk, J.-O. Naslund, F. Mørk, Y. Martos, N. Balling, T. Funck, K. K. Kjeldsen, D. Petersen, U. Gregersen, G. Dam, T. Nielsen, S. A. Khan, and A. Løkkegaard. “Greenland Geothermal Heat Flow

- Database and Map (Version 1)". *Earth System Science Data*. 2022, 14 (5), 2209–2238. doi: [10.5194/essd-14-2209-2022](https://doi.org/10.5194/essd-14-2209-2022).
- [J40] T. J. Young, P. Christoffersen, M. Bougamont, S. M. Tulaczyk, B. Hubbard, **K. D. Mankoff**, K. W. Nicholls, and C. L. Stewart. "Rapid basal melting of the Greenland Ice Sheet from surface meltwater drainage". *Proceedings of the National Academy of Sciences*. 2022, 119 (10), e2116036119. doi: [10.1073/pnas.2116036119](https://doi.org/10.1073/pnas.2116036119).
- [J39] **K. D. Mankoff**, X. Fettweis, P. L. Langen, M. Stendel, K. K. Kjeldsen, N. B. Karlsson, B. Noël, M. R. van den Broeke, A. Solgaard, W. Colgan, J. E. Box, S. B. Simonsen, M. D. King, A. P. Ahlstrøm, S. B. Andersen, and R. S. Fausto. "Greenland ice sheet mass balance from 1840 through next week". *Earth System Science Data*. 2021, 13 (10), 5001–5025. doi: [10.5194/essd-13-5001-2021](https://doi.org/10.5194/essd-13-5001-2021).
- [J38] A. Solgaard, A. Kusk, J. P. M. Boncori, J. Dall, **K. D. Mankoff**, A. P. Ahlstrøm, S. B. Andersen, M. Citterio, N. B. Karlsson, K. K. Kjeldsen, N. J. Korsgaard, S. H. Larsen, and R. S. Fausto. "Greenland ice velocity maps from the PROMICE project". *Earth System Science Data*. 2021, 13 (7), 3491–3512. doi: [10.5194/essd-13-3491-2021](https://doi.org/10.5194/essd-13-3491-2021).
- [J37] R. S. Fausto, D. van As, **K. D. Mankoff**, B. Vandecrux, M. Citterio, A. P. Ahlstrøm, S. B. Andersen, W. Colgan, N. B. Karlsson, K. K. Kjeldsen, N. J. Korsgaard, S. H. Larsen, S. Nielsen, A. Ø. Pedersen, C. L. Shields, A. M. Solgaard, and J. E. Box. "Programme for Monitoring of the Greenland Ice Sheet (PROMICE) automatic weather station data". *Earth System Science Data*. 2021, 13 (8), 3819–3845. doi: [10.5194/essd-13-3819-2021](https://doi.org/10.5194/essd-13-3819-2021).
- [J36] K. Hansen, M. Truffer, A. Aschwanden, **K. Mankoff**, M. Bevis, A. Humbert, M. R. Broeke, B. Noël, A. Bjørk, W. Colgan, K. H. Kjær, S. Adhikari, V. Barletta, and S. A. Khan. "Estimating Ice Discharge at Greenland's Three Largest Outlet Glaciers Using Local Bedrock Uplift". *Geophysical Research Letters*. 2021, 48 (14). doi: [10.1029/2021gl1094252](https://doi.org/10.1029/2021gl1094252).
- [J35] N. B. Karlsson, A. M. Solgaard, **K. D. Mankoff**, F. Gillet-Chaulet, J. A. MacGregor, J. E. Box, M. Citterio, W. T. Colgan, S. H. Larsen, K. K. Kjeldsen, N. J. Korsgaard, D. I. Benn, I. J. Hewitt, and R. S. Fausto. "A first constraint on basal melt-water production of the Greenland ice sheet". *Nature Communications*. 2021, 12 (1). doi: [10.1038/s41467-021-23739-z](https://doi.org/10.1038/s41467-021-23739-z).
- [J34] W. Colgan, J. A. MacGregor, **K. D. Mankoff**, R. Haagenson, H. Rajaram, Y. M. Martos, M. Morlighem, M. A. Fahnestock, and K. K. Kjeldsen. "Topographic Correction of Geothermal Heat Flux in Greenland and Antarctica". *Journal of Geophysical Research: Earth Surface*. 2021, 126 (2). doi: [10.1029/2020jf005598](https://doi.org/10.1029/2020jf005598).
- [J33] **K. D. Mankoff**, B. Noël, X. Fettweis, A. P. Ahlstrøm, W. Colgan, K. Kondo, K. Langley, S. Sugiyama, D. van As, and R. S. Fausto. "Greenland liquid water discharge from 1958 through 2019". *Earth System Science Data*. 2020, 12 (4), 2811–2841. doi: [10.5194/essd-12-2811-2020](https://doi.org/10.5194/essd-12-2811-2020).
- [J32] **K. D. Mankoff**, A. Solgaard, W. Colgan, A. P. Ahlstrøm, S. A. Khan, and R. S. Fausto. "Greenland Ice Sheet solid ice discharge from 1986 through March 2020". *Earth System Science Data*. 2020, 12 (2), 1367–1383. doi: [10.5194/essd-12-1367-2020](https://doi.org/10.5194/essd-12-1367-2020).
- [J31] **K. D. Mankoff**, D. van As, A. Lines, T. Bording, J. Elliott, R. Kraghede, H. Cantalloube, H. Oriot, P. Dubois-Fernandez, O. Ruault du Plessis, A. Vest Christiansen, E. Auken, K. Hansen, W. Colgan, and N. B. Karlsson. "Search and recovery of aircraft parts in ice-sheet crevasse fields using airborne and in situ geophysical sensors". *Journal of Glaciology*. 2020, 66 (257), 496–508. doi: [10.1017/jog.2020.26](https://doi.org/10.1017/jog.2020.26).

- [J30] A. Kokhanovsky, J. E. Box, B. Vandecrux, **K. D. Mankoff**, M. Lamare, A. Smirnov, and M. Kern. “The Determination of Snow Albedo from Satellite Measurements Using Fast Atmospheric Correction Technique”. *Remote Sensing*. **2020**, 12 (2), 234. doi: [10.3390/rs12020234](https://doi.org/10.3390/rs12020234).
- [J29] A. Kokhanovsky, M. Lamare, O. Danne, C. Brockmann, M. Dumont, G. Picard, L. Arnaud, V. Favier, B. Jourdain, E. Lemeur, B. Di Mauro, T. Aoki, M. Niwano, V. Rozanov, S. Korkin, S. Kipfstuhl, J. Freitag, M. Hoerhold, A. Zuhr, D. Vladimirova, A.-K. Faber, H. C. Steen-Larsen, S. Wahl, J. K. Andersen, B. Vandecrux, D. van As, **K. D. Mankoff**, M. Kern, E. Zege, and J. E. Box. “Retrieval of Snow Properties from the Sentinel-3 Ocean and Land Colour Instrument”. *Remote Sensing*. **2019**, 11 (19), 2280. doi: [10.3390/rs11192280](https://doi.org/10.3390/rs11192280).
- [J28] **K. D. Mankoff**, W. Colgan, A. Solgaard, N. B. Karlsson, A. P. Ahlstrøm, D. van As, J. E. Box, S. A. Khan, K. K. Kjeldsen, J. Mouginit, and R. S. Fausto. “Greenland Ice Sheet solid ice discharge from 1986 through 2017”. *Earth System Science Data*. **2019**, 11 (2), 769–786. doi: [10.5194/essd-11-769-2019](https://doi.org/10.5194/essd-11-769-2019).
- [J27] J. K. Andersen, R. S. Fausto, K. Hansen, J. E. Box, S. B. Andersen, A. P. Ahlstrøm, D. V. As, M. Citterio, W. Colgan, N. B. Karlsson, K. K. Kjeldsen, N. J. Korsgaard, S. H. Larsen, **K. D. Mankoff**, A. Ø. Pedersen, C. L. Shields, A. Solgaard, and B. Vandecrux. “Update of annual calving front lines for 47 marine terminating outlet glaciers in Greenland (1999–2018)”. *Geological Survey of Denmark and Greenland Bulletin*. **2019**, 43. doi: [10.34194/geusb-201943-02-02](https://doi.org/10.34194/geusb-201943-02-02).
- [J26] W. Colgan, **K. D. Mankoff**, K. K. Kjeldsen, A. A. Bjørk, J. E. Box, S. B. Simonsen, L. S. Sørensen, S. A. Khan, A. M. Solgaard, R. Forsberg, H. Skourup, L. Stenseng, S. S. Kristensen, S. M. Hvidegaard, M. Citterio, N. Karlsson, X. Fettweis, A. P. Ahlstrøm, S. B. Andersen, D. van As, and R. S. Fausto. “Greenland ice sheet mass balance assessed by PROMICE (1995 – 2015)”. *Geological Survey of Denmark and Greenland Bulletin*. **2019**, 43, e2019430201. doi: [10.34194/GEUSB-201943-02-01](https://doi.org/10.34194/GEUSB-201943-02-01).
- [J25] R. S. Fausto and **the PROMICE team**. “The Greenland ice sheet – snowline elevations at the end of the melt seasons from 2000 to 2017”. *Geological Survey of Denmark and Greenland Bulletin*. **2018**, 41, 71–74. doi: [10.34194/geusb.v41.4346](https://doi.org/10.34194/geusb.v41.4346).
- [J24] Y. Chen, X. Liu, J. D. Gulley, and **K. D. Mankoff**. “Subglacial Conduit Roughness: Insights from Computational Fluid Dynamics Models”. *Geophysical Research Letters*. **2018**, 45 (20), 11206–11218. doi: [10.1029/2018g1079590](https://doi.org/10.1029/2018g1079590).
- [J23] **K. D. Mankoff**, J. D. Gulley, S. M. Tulaczyk, M. D. Covington, X. Liu, Y. Chen, D. I. Benn, and P. S. Głowacki. “Roughness of a subglacial conduit under Hansbreen, Svalbard”. *Journal of Glaciology*. **2017**, 63 (239), 423–435. doi: [10.1017/jog.2016.134](https://doi.org/10.1017/jog.2016.134).
- [J22] **K. D. Mankoff** and S. M. Tulaczyk. “The past, present, and future viscous heat dissipation available for Greenland subglacial conduit formation”. *The Cryosphere*. **2017**, 11, 303–317. doi: [10.5194/tc-11-303-2017](https://doi.org/10.5194/tc-11-303-2017).
- [J21] **K. D. Mankoff**, F. Straneo, C. Cenedese, S. B. Das, C. G. Richards, and H. Singh. “Structure and dynamics of a subglacial discharge plume in a Greenlandic fjord”. *Journal of Geophysical Research: Oceans*. **2016**, 121 (12), 8670–8688. doi: [10.1002/2016JC011764](https://doi.org/10.1002/2016JC011764).
- [J20] T. O. Hodson, R. D. Powell, S. A. Brachfeld, S. Tulaczyk, R. P. Scherer, and **WISSARD Science Team**. “Physical processes in Subglacial Lake Whillans, West Antarctica: Inferences from sediment cores”. *Earth and Planetary Science Letters*. **2016**, 444, 56–63. doi: [10.1016/j.epsl.2016.03.036](https://doi.org/10.1016/j.epsl.2016.03.036).

- [J19] J. A. Mikucki, P. A. Lee, D. Ghosh, A. M. Purcell, A. C. Mitchell, **K. D. Mankoff**, A. T. Fisher, S. Tulaczyk, S. Carter, M. R. Siegfried, H. A. Fricker, T. Hodson, J. Coenen, R. Powell, R. Scherer, T. Vick-Majors, A. A. Achberger, B. C. Christner, and M. Tranter. “Subglacial Lake Whillans microbial biogeochemistry: a synthesis of current knowledge”. *Philosophical Transactions of the Royal Society A*. **2016**, 374 (2059), 20140290. doi: [10.1098/rsta.2014.0290](https://doi.org/10.1098/rsta.2014.0290).
- [J18] A. T. Fisher, **K. D. Mankoff**, S. M. Tulaczyk, S. W. Tyler, N. Foley, and the WISSARD Science Team. “High Geothermal Heat Flux Measured below the West Antarctic Ice Sheet”. *Science Advances*. **2015**, 1 (6), e1500093. doi: [10.1126/sciadv.1500093](https://doi.org/10.1126/sciadv.1500093).
- [J17] A. A. Harpold, J. A. Marshall, S. W. Lyon, T. B. Barnhart, B. Fisher, M. Donovan, K. M. Brubaker, C. J. Crosby, N. F. Glenn, C. L. Glennie, P. B. Kirchner, N. Lam, **K. D. Mankoff**, J. L. McCreight, N. P. Molotch, K. N. Musselman, J. Pelletier, T. Russo, H. Sangireddy, Y. Sjoberg, T. Swetnam, and N. West. “Laser Vision: Lidar as a Transformative Tool to Advance Critical Zone Science”. *Hydrology and Earth System Sciences*. **2015**, 19, 2881–2897. doi: [10.5194/hess-19-2881-2015](https://doi.org/10.5194/hess-19-2881-2015).
- [J16] P. Kimball, J. Bailey, S. B. Das, R. Geyer, T. Harrison, C. Kunz, K. Manganini, **K. D. Mankoff**, K. Samuelson, T. Sayre-McCord, F. Straneo, P. Traykovski, and H. Singh. “The WHOI Jetyak: An Autonomous Surface Vehicle for Oceanographic Research in Shallow or Dangerous Waters”. *2014 IEEE/OES Autonomous Underwater Vehicles (AUV)*. Institute of Electrical & Electronics Engineers (IEEE), 2014. doi: [10.1109/AUV.2014.7054430](https://doi.org/10.1109/AUV.2014.7054430).
- [J15] S. M. Tulaczyk, J. A. Mikucki, M. R. Siegfried, C. G. Barcheck, L. H. Beem, A. Behar, J. Burnett, B. C. Christner, A. T. Fisher, H. A. Fricker, **K. D. Mankoff**, F. Rack, J. C. Priscu, R. D. Powell, D. Sampson, R. P. Scherer, S. Y. Schwartz, and the WISSARD Science Team. “WISSARD at Subglacial Lake Whillans: Scientific Operations and Initial Observations”. *Journal of Glaciology*. **2014**, 5 (65). doi: [10.3189/2014AoG65A009](https://doi.org/10.3189/2014AoG65A009).
- [J14] B. C. Christner, J. C. Priscu, A. M. Achberger, C. Barbante, S. P. Carter, K. Christianson, A. B. Bichaud, J. A. Mikucki, A. C. Mitchell, M. L. Skidmore, T. J. Vick-Majors, and **The WISSARD Science Team**. “A microbial ecosystem beneath the West Antarctic ice sheet”. *Nature*. **2014**, 512, 310–313. doi: [10.1038/nature13667](https://doi.org/10.1038/nature13667).
- [J13] **K. D. Mankoff** and T. A. Russo. “The Kinect: A low-cost, high-resolution, short-range, 3D camera”. *Earth Surface Processes and Landforms*. **2013**, 38 (9), 926–936. doi: [10.1002/esp.3332](https://doi.org/10.1002/esp.3332).
- [J12] **K. D. Mankoff**, S. S. Jacobs, S. M. Tulaczyk, and S. E. Stammerjohn. “The role of Pine Island Glacier ice shelf basal channels in deep-water upwelling, polynyas and ocean circulation in Pine Island Bay, Antarctica”. *Annals of Glaciology*. **2012**, 53 (60), 23–28. doi: [10.3189/2012AoG60A062](https://doi.org/10.3189/2012AoG60A062).
- [J11] S. Passchier, G. Browne, B. Field, C. R. Fielding, L. A. Krissek, K. Panter, S. F. Pekar, and **ANDRILL-SMS Science Team**. “Early and middle Miocene Antarctic glacial history from the sedimentary facies distribution in the AND-2A drill hole, Ross Sea, Antarctica”. *Geological Society of America Bulletin*. **Apr. 2011**, 123 (11-12), 2352–2365. doi: [10.1130/b30334.1](https://doi.org/10.1130/b30334.1).
- [J10] T. D. Frank, Z. Gui, and the **ANDRILL SMS Science Team**. “Cryogenic origin for brine in the subsurface of southern McMurdo Sound, Antarctica”. *Geology*. **July 2010**, 38 (7), 587–590. doi: [10.1130/g30849.1](https://doi.org/10.1130/g30849.1). URL: <http://dx.doi.org/10.1130/G30849.1>.
- [J9] S. Warny, R. A. Askin, M. J. Hannah, B. A. R. Mohr, J. I. Raine, D. M. Harwood, F. Florindo, and **SMS Science Team**. “Palynomorphs from a sediment core reveal a sudden remarkably warm Antarctica during the middle Miocene”. *Geology*. **Oct. 2009**, 37 (10), 955–958. doi: [10.1130/g30139a.1](https://doi.org/10.1130/g30139a.1). URL: <http://dx.doi.org/10.1130/G30139A.1>.

- [J8] S. P. Shukla, M. A. Chandler, J. Jonas, L. E. Sohl, **K. D. Mankoff**, and H. J. Dowsett. “Impact of a Permanent El Niño and Indian Ocean Dipole in Warm Pliocene Climates”. *Paleoceanography*. **2009**, 24 (PA2221). doi: [10.1029/2008PA001682](https://doi.org/10.1029/2008PA001682).
- [J7] L. T. Huffman, R. H. Levy, L. Lacy, D. M. Harwood, M. Berg, M. Cattadori, J. Diamond, J. Dooley, L. Dahlman, R. Frisch-Gleason, J. Hubbard, R. Lehmann, **K. D. Mankoff**, V. Miller, K. Pound, G. S. di Clemente, A. Siegmund, J. Thomson, E. Trummel, R. Williams, and The ANDRILL SMS Project Science Team. “Education and Outreach in the ANDRILL McMurdo Ice Shelf (MIS) and the Southern McMurdo Sound (SMS) Projects, Antarctica”. *Terra Antarctica*. **2008**, 15 (1), 221–235.
- [J6] D. Mankoff, A. Dey, J. Mankoff, and **K. D. Mankoff**. “Supporting interspecies social awareness: using peripheral displays for distributed pack awareness”. *Proceedings of the 18th annual ACM symposium on User interface software and technology*. ACM New York, NY, USA. 2005, pp. 253–258.
- [J5] S. M. Petrinec, W. L. Imhof, C. A. Barth, **K. D. Mankoff**, D. N. Baker, and J. G. Luhmann. “Comparisons of thermospheric high-latitude nitric oxide observations from SNOE and global auroral X-ray bremsstrahlung observations from PIXIE”. *Journal of Geophysical Research*. **2003**, 108 (A3), 1223. doi: [10.1029/2002JA009451](https://doi.org/10.1029/2002JA009451).
- [J4] C. A. Barth, **K. D. Mankoff**, S. M. Bailey, and S. C. Solomon. “Global observations of nitric oxide in the thermosphere”. *Journal of Geophysical Research*. **2003**, 108 (A1), 1027. doi: [10.1029/2002JA009458](https://doi.org/10.1029/2002JA009458).
- [J3] C. A. Barth, D. N. Baker, **K. D. Mankoff**, and S. M. Bailey. “Magnetospheric control of the energy input into the thermosphere”. *Geophysical Research Letters*. **2002**, 29 (13), 1629. doi: [10.1029/2001GL014362](https://doi.org/10.1029/2001GL014362).
- [J2] D. N. Baker, C. A. Barth, **K. D. Mankoff**, S. G. Kanekal, S. M. Bailey, G. M. Mason, and J. E. Mazur. “Relationships between precipitating auroral zone electrons and lower thermospheric nitric oxide densities: 1998–2000”. *Journal of Geophysical Research*. **2001**, 106 (A11), 24465–24480. doi: [10.1029/2001JA000078](https://doi.org/10.1029/2001JA000078).
- [J1] C. A. Barth, D. N. Baker, **K. D. Mankoff**, and S. M. Bailey. “The northern auroral region as observed in nitric oxide”. *Geophysical Research Letters*. **2001**, 38 (8), 1463–1466. doi: [10.1029/2000GL012649](https://doi.org/10.1029/2000GL012649).

## DATA PRODUCTS (PEER REVIEWED; SELECTED SUBSET)

- [D9] B. Vandecrux et al. *The SUMup collaborative database: Surface mass balance, subsurface temperature and density measurements from the Greenland and Antarctic ice sheets (1912–2023)*. 2023. doi: [10.18739/A2M61BR5M](https://doi.org/10.18739/A2M61BR5M).
- [D8] P. How, **K. D. Mankoff**, P. J. Wright, B. Vandecrux, A. P. Ahlstrøm, and R. S. Fausto. *AWS one boom tripod Edition 4*. 2022. doi: [10.22008/FK2/IW73UU](https://doi.org/10.22008/FK2/IW73UU).
- [D7] P. How, **K. D. Mankoff**, P. J. Wright, B. Vandecrux, A. P. Ahlstrøm, and R. S. Fausto. *AWS two boom mast Edition 1*. 2022. doi: [10.22008/FK2/GNYFUK](https://doi.org/10.22008/FK2/GNYFUK).
- [D6] R. S. Fausto, D. Van As, and **K. D. Mankoff**. *AWS one boom tripod Edition 3*. 2022. doi: [10.22008/FK2/8SS7EW](https://doi.org/10.22008/FK2/8SS7EW).

- [D5] **K. D. Mankoff**, A. Løkkegaard, W. Colgan, H. Thomsen, G. Clow, D. Fisher, C. Zdanowicz, M. P. Lüthi, B. Vinther, J. A. MacGregor, I. McDowell, H. Zekollari, T. Meierbachtol, S. Doyle, R. Law, B. Hills, J. Harper, N. Humphrey, B. Hubbard, P. Christoffersen, and M. Jacquemart. *Greenland deep ice temperature database*. 2022. DOI: [10.22008/FK2/3BVF9V](https://doi.org/10.22008/FK2/3BVF9V).
- [D4] **K. D. Mankoff**, X. Fettweis, A. Solgaard, P. Langen, M. Stendel, B. Noël, M. R. Van Den Broeke, N. Karlsson, J. E. Box, and K. Kjeldsen. *Greenland ice sheet mass balance from 1840 through next week*. 2021. DOI: [10.22008/FK2/OHI23Z](https://doi.org/10.22008/FK2/OHI23Z).
- [D3] **K. D. Mankoff** and A. Solgaard. *Greenland Ice Sheet solid ice discharge from 1986 through last month: Discharge*. 2020. DOI: [10.22008/PROMICE/DATA/ICE\\_DISCHARGE/D/V02](https://doi.org/10.22008/PROMICE/DATA/ICE_DISCHARGE/D/V02).
- [D2] **K. D. Mankoff**. *Greenland freshwater runoff*. 2020. DOI: [10.22008/FK2/AA6MTB](https://doi.org/10.22008/FK2/AA6MTB).
- [D1] **K. D. Mankoff**. *Streams, Outlets, and Basins [k=1.0]*. 2020. DOI: [10.22008/FK2/XKQVL7](https://doi.org/10.22008/FK2/XKQVL7).

## GRANT SUPPORT

Co-I 2024 2024	\$81,576	NASA	Open ModelE (OpenME)
Co-PI 2019 2020	€117,994	European Space Agency	An operational service of new Sentinel-3 algorithms for climate monitoring of the Greenland Cryosphere within the CryoClim network
PI 2018 2019	un-disclosed	AIB-DK, Air France, Airbus, BEA & Engine Alliance.	Search and recovery of an A380 aircraft part in an ice sheet crevasse field
Co-PI 2019	€147,479	European Space Agency	Pre-operational Sentinel-3 snow and ice products
Co-PI 2015 2017	\$296,029	National Science Foundation Division of Polar Cyberinfrastructure	Collaborative Research: Visualization, analysis, and HPC modeling of subglacial hydrology from high-resolution 3D conduit scans acquired with a novel sensor
PI 2016	\$22,750	National Geographic Society Committee for Research and Exploration	Subglacial Conduit Maps for Glacial Hydrological Studies
PI 2015	\$6,033	PSU Geosciences Dept.	An Augmented Reality Hydrological Sandbox
2013 2015	\$91,000	Woods Hole Oceanographic Institution	Ocean and Climate Change Postdoctoral Scholar
2010 2013	\$90,000	NASA	Earth and Space Science Ph.D. Fellowship
PI 2012	\$10,000	Svalbard Science Forum Arctic Field Grant	High-resolution 3D digital maps of the interior of subglacial caves for hydrologic modeling

Co-PI 2008	\$25,000	The Climate Project and Google.org	Raising environmental awareness and presenter effectiveness with Google Earth
2007	\$15,470	ANDRILL ARISE	PACE: Paleo Antarctic Cores for Education

## MISCELLANEOUS

FIELD ~30 expeditions to Antarctica, Greenland, Svalbard, Alaska, Iceland, Norway, & Switzerland.

2016 Astronaut Candidate Applicant, NASA. Selected to interview with final 50 of ~18,300 applicants.

2008 Astronaut Candidate Applicant, ESA. Selected to semi-final 200 of 8413.

SCUBA Sub-ice (PADI). Rescue (PADI). Dry suit & public safety (ACUC/LGS). Advanced (NAUI).

- American, Italian, and Swiss citizen.
- Expert knitter.

**INVITED TALKS (SELECTED)** More than 100 invited talks on both my research and climate change since 2007, at locations including United Nations General Assembly Room, Amundsen-Scott South Pole Station, NSF HQ, many NYC Public Schools, & elsewhere.

- [T14] K. D. Mankoff. “Search and Recovery of the A380 Fan Hub”. Keynote talk at GE Aviation Safety Conference. Virtual, Sept. 2020.
- [T13] K. D. Mankoff. “An Overview and an Internal View of Subglacial Hydrology”. University of Edinburgh School of Geosciences Hutton Club Seminar Series. Edinburgh, Scotland, Sept. 2017.
- [T12] K. D. Mankoff. “Monitoring ice/ocean interactions in Greenland”. University of Rhode Island, Graduate School of Oceanography, Narragansett, RI, Mar. 2017.
- [T11] K. D. Mankoff. “A macro- and micro- view of thermal processes in subglacial conduits”. University of Silesia, Katowice, Poland, June 2016.
- [T10] K. D. Mankoff. “Greenland subglacial hydrology into conduits and into fjords”. École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland, Feb. 2016.
- [T9] K. D. Mankoff. “Geospatial and temporal mapping of scientific publications”. Invited Lightning Talk at Science Hack Day hosted at GitHub. San Francisco, CA, Oct. 2014.
- [T8] K. D. Mankoff. “Greenland subglacial hydrology upstream and into fjords”. University of Rhode Island, Graduate School of Oceanography, Narragansett, RI, June 2014.
- [T7] K. D. Mankoff. “Mapping and Modeling Subglacial Conduits with a Low-Cost 3D Camera, Novel Algorithms, and Computational Fluid Dynamics”. NASA Goddard Institute for Space Studies (GISS), New York, New York, May 2013.
- [T6] K. D. Mankoff. “Using the Microsoft Kinect to Map Cave Surfaces”. Subglacial Workshop. Engabreen Tunnel, Svartisen, Norway, Apr. 2012.
- [T5] K. D. Mankoff. “Pale Blue Truth (A live oral presentation of *An Inconvenient Truth* and introduction to EdGCM)”. National Science Foundations (NSF) Headquarters. Washington, DC, Jan. 2008.
- [T4] K. D. Mankoff. “Pale Blue Truth: A Live Custom Version of An Inconvenient Truth”. Amundsen-Scott South Pole Station. South Pole, Antarctica, Dec. 2007.
- [T3] K. D. Mankoff. “Pale Blue Truth”. McMurdo Station, Antarctica. McMurdo Station, Antarctica, Oct. 2007.

- [T2] K. D. Mankoff. “An Inconvenient Truth”. United Nations General Assembly Room, UNIS-UN Conference. The United Nations, Mar. 2007.
- [T1] K. D. Mankoff. “MarsClock: A Clock for Mars”. Keynote talk at Palmsource Developers Conference. San Francisco, CA, Feb. 2004.

## PROFESSIONAL SERVICE

- CHIEF EDITOR Copernicus journal Earth System Science Data (Impact factor: 12). 2022 – present.
- ORGANIZER Exploratory Antarctic Ice Loss Intervention Workshop, Stanford, CA. Dec 9-10 2023.
- REVIEWER NSF (PLR (x5), OPP, AIRF, & OCE divisions); Nature Geoscience; Nature Communications Earth & Environment; Geoscience and Remote Sensing Letters (x4); Geophysical Research Letters (GRL x4); Journal of Geophysical Research (JGR); Journal of Glaciology (x3); Annals of Glaciology; The Cryosphere (x2); J. Climate; Earth Surface Processes and Landforms (ESPL); Frontiers in Earth Sciences; Geografiska Annaler; Ocean Science; Sensors; Computer-Aided Civil and Infrastructure Engineering.
- CO-CHAIR IASC “Ice basins and boundaries” working group.
- 2023 Co-organizer of Exploratory Ice Intervention Initiative Workshop at Stanford University
- 2022-2023 Co-organizer of Greenland natural science data workshop: An NSF-funded workshop to assess the current data ecosystem and map the path forward.
- 2015-2018 Ph.D. co-advisor at Pennsylvania State University
- 2012-2017 Member, Climate Science Rapid Response Team.

## SOFTWARE AND TOOLS

- Data Helped create the GEUS Dataverse. <http://dataverse.geus.dk/>
- Misc Contribute to open source projects on <http://github.com/mankoff> and elsewhere.
- Kinect Multiple software utilities for working with Kinect sensor. <http://github.com/mankoff>
- Mariner9 Re-release of Mariner 9 data in Google Earth. <http://lasp.colorado.edu/home/mariner9>
- kdm-idl Developed IDL API for Google Earth KML. <http://code.google.com/p/kdm-idl/>
- EdGCM Graphical interface for NASA GCM. <http://edgcm.columbia.edu>
- SNOE Student Nitric Oxide Explorer data products. <https://lasp.colorado.edu/home/snoe/>
- MarsClock A clock for Mars, developed for and on PalmOS. <http://marsclock.sourceforge.net>

## TEACHING AND EDUCATION & OUTREACH

- 2016 Co-teacher “Introduction to Photogrammetry”. PSU GEOSC 597.
- 2015-17 Online Course Scientist, American Museum of Natural History.
- 2010 Teaching Assistant, Introduction to Scientific Computing, UCSC-EART119.
- 2008-09 District Manager for The Climate Project. Provided support to ~100 presenters.
- 2007-08 Member of ANDRILL Antarctic ARISE project.
- Performed outreach and informal education via software and lectures while off ice.
- 2004-09 Assisted with ~6 workshops for high-school teachers on the use of EdGCM (educational software) and how to use it within state teaching guidelines.
- 2004-09 Developed educational software (EdGCM) designed for high-school and undergraduate students.

## OTHER

- [O11] **K. D. Mankoff**, R. Axelrod, W. Colgan, S. Crocker, R. Datta, C. Dow, B. Fischhoff, J. Moore, M. Morlighem, M. Truffer, and S. Tulaczyk. *Exploratory Antarctic Ice Loss Intervention Workshop: Final Report*. 2024. DOI: [10.5281/ZENODO.11115730](https://doi.org/10.5281/ZENODO.11115730).

- [O10] K. Poinar, **K. D. Mankoff**, R. S. Fausto, X. Fettweis, B. D. Loomis, A. Wehrlé, C. D. Jensen, M. Tedesco, J. E. Box, and T. L. Mote. *NOAA Arctic Report Card 2023 : Greenland Ice Sheet*. Tech. rep. NOAA, 2023. doi: [10.25923/YETX-RS76](https://doi.org/10.25923/YETX-RS76).
- [O9] T. A. Moon, **K. D. Mankoff**, R. S. Fausto, X. Fettweis, B. D. Loomis, T. L. Mote, K. Poinar, M. Tedesco, A. Wehrlé, and C. D. Jensen. *NOAA Arctic Report Card 2022: Greenland Ice Sheet*. Tech. rep. NOAA, 2022. doi: [10.25923/c430-hb50](https://doi.org/10.25923/c430-hb50).
- [O8] T. A. Moon, M. Tedesco, J. E. Box, J. Cappelen, R. S. Fausto, X. Fettweis, N. J. Korsgaard, B. D. Loomis, **K. D. Mankoff**, T. L. Mote, A. Wehrlé, and Ø. A. Winton. *NOAA Arctic Report Card 2021: Greenland Ice Sheet*. Tech. rep. NOAA, 2021. doi: [10.25923/546G-MS61](https://doi.org/10.25923/546G-MS61).
- [O7] T. A. Moon et al. “The Arctic”. *Bulletin of the American Meteorological Society*. **2023**, 104 (9), S271–S321. doi: [10.1175/bams-d-23-0079.1](https://doi.org/10.1175/bams-d-23-0079.1). URL: <https://doi.org/10.1175%2Fbams-d-23-0079.1>.
- [O6] M. L. Druckenmiller et al. “The Arctic”. *Bulletin of the American Meteorological Society*. **2021**, 102 (8), S263–S316. doi: [10.1175/bams-d-21-0086.1](https://doi.org/10.1175/bams-d-21-0086.1).
- [O5] T. A. Moon, M. Tedesco, J. E. Box, J. Cappelen, R. S. Fausto, X. Fettweis, N. J. Korsgaard, B. Loomis, **K. D. Mankoff**, T. Mote, C. H. Reijmer, C. J. P. P. Smeets, D. van As, R. S. W. van de Wal, National Snow and Ice Data Center (U.S.), and United States. National Oceanic and Atmospheric Administration. Office of Oceanic and Atmospheric Research. *Arctic Report Card 2020: Greenland Ice Sheet*. Tech. rep. NOAA, 2020. doi: [10.25923/MS78-G612](https://doi.org/10.25923/MS78-G612).
- [O4] J. K. Andersen et al. “State of the Climate in 2019: The Arctic”. *Bulletin of the American Meteorological Society*. **2020**, 101 (8). Ed. by J. Richter-Menge and M. L. Druckenmiller, S239–S286. doi: [10.1175/bams-d-20-0086.1](https://doi.org/10.1175/bams-d-20-0086.1).
- [O3] **K. D. Mankoff**. “Multi-scale investigations of subglacial and sub-ice shelf conduit hydrology”. Advisors: Slawek Tulaczyk (UCSC) & Sharon Stammerjohn (INSTAAR). PhD thesis. University of California, Santa Cruz, Dec. 2013.
- [O2] L. E. Sohl, M. A. Chandler, R. B. Schmunk, **K. D. Mankoff**, J. A. Jonas, K. M. Foley, and H. J. Dowsett. “PRISM3/GISS topographic reconstruction”. *US Geological Survey Data Series*. **2009**, 419 (6).
- [O1] S. Michaud, **K. D. Mankoff**, J. Braure, F. Sommer, J. Ferriero, and S. Javor. *PREMARS: Plant and Rocket Experiment for Mars Aurora Research Support*. Tech. rep. École Polytechnique Fédérale de Lausanne, 2003.

## MEDIA

- [M10] A. I. Gunnarsson. *Under Ice*. Film about A380 engine search project. Youtube, 2020. URL: [https://www.youtube.com/watch?v=rcYGyp\\_9Ly0](https://www.youtube.com/watch?v=rcYGyp_9Ly0).
- [M9] Press release leading to ~20 syndicated articles. *Missing airplane engine part found by GEUS led expeditions*. July 2019. URL: <https://eng.geus.dk/about/news/news-archive/2019/jul/missing-airplane-engine-part-found-by-geus-led-expeditions/>.
- [M8] E. Underwood. *Mapping Subglacial Meltwater Channels*. May 2019. doi: [10.1029/2019eo124319](https://doi.org/10.1029/2019eo124319).
- [M7] A. Nowogrodzki. *The research hardware in your video-game system*. Nature (Interviewee). Jan. 2018. doi: [10.1038/d41586-017-08968-x](https://doi.org/10.1038/d41586-017-08968-x).
- [M6] European Union Parliament. Participant in short film highlighting European Union polar research. Film shown in EU Parliament and visitor centers and translated into 28 languages. 2017.

- [M5] D. Fox. *The Frozen Underworld*. Muse. July 2014. URL: <http://www.musemagkids.com/new/julyaugust-2014>.
- [M4] Norwegian TV 2 Interview. *Subglacial Workshop, Engabreen Tunnel, Svartisen, Norway*. <http://www.tv2.no/nyheter/innenriks/denne-isebreen-har-krympet-300-meter-paa-elleve-aar-3761093.html>. Apr. 2012.
- [M3] A. Mann. *Scientists Hack Kinect to Study Glaciers and Asteroids*. Wired.com. <http://www.wired.com/wiredscience/2011/12/hacked-kinect-science/>. Dec. 2011.
- [M2] G. Mattison. *Radio interview about Antarctic research*. WRSU, 88.7 FM, New Brunswick, NJ. June 2010.
- [M1] C. Sayre. *Al Gore's Foot Soldiers*. Time.com. Jan. 2007. URL: <http://www.time.com/time/printout/0,8816,1583869,00.html>.