

DAWN M. KOPACZ

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EDUCATION

- 2015 Ph.D. Mathematics (Concentration: Atmospheric Science), University of WI – Milwaukee, Dissertation: Predictability of sea ice behavior near bifurcations
- 2009 M.S. Mathematics (Concentration: Atmospheric Science), University of WI - Milwaukee, Thesis: Identification of inter-decadal temperature trends through analysis of observations and global climate models
- 2006 B.S. Atmospheric Science, Mathematics Minor, University of WI – Milwaukee
Dean's List, Cum Laude

PROFESSIONAL APPOINTMENTS

- Since 2023 Associate Professor of Practice & Undergraduate Advisor, Department of Earth & Atmospheric Sciences, University of Nebraska – Lincoln
- 2017 – 23 Assistant Professor of Practice & Undergraduate Advisor, Department of Earth & Atmospheric Sciences, University of Nebraska – Lincoln
- 2015 – 17 Visiting Assistant Professor, Department of Atmospheric Sciences, Vermont State University – Lyndon Campus (formerly Lyndon State College, then Northern Vermont University – Lyndon)
- 2011 – 15 Mathematics Instructor, Instructional Services, Alverno College
- 2008 – 11 Operational Meteorologist, Innovative Weather

PUBLICATIONS (refereed)

Haacker, R., M. A. Burt, **D. Kopacz**, P. McNeal, K. Quardokus Fisher, and E. V. Fischer, 2026: Improving educational experiences in atmospheric science field campaigns through partnerships between observational scientists and education researchers. Bull. Amer. Meteor. Soc., 107(1), E103–E109, <https://doi.org/10.1175/BAMS-D-25-0318.1>.

Handlos, Z.J., C. Davenport, and **D. Kopacz**, 2023: Case Studies Lead Active Learning: State of Interactive Learning Use in the Atmospheric Sciences Reveals Strategies and Future Directions, Bulletin of the American Meteorological Society, 104:3, pp.165 – 168, <https://doi.org/10.1175/BAMS-D-20-0239.A>.

PUBLICATIONS (refereed; CONT'D)

Handlos, Z.J., C. Davenport, and **D. Kopacz**, 2022: The “State” of Active Learning in the Atmospheric Sciences. *Bulletin of the American Meteorological Society*, 103, E1197 – E1212, <https://doi.org/10.1175/BAMS-D-20-0239.1>.

McNeal, P., W. Flynn, C. Kirkpatrick, **D. Kopacz**, D. LaDue, and L. C. Maudlin, 2022: How undergraduate students learn atmospheric science: Characterizing the current body of research. *Bulletin of the American Meteorological Society*, 103:2, E389-E401, <https://doi.org/10.1175/BAMS-D-20-0023.1>.

Kopacz, D., and Z. J. Handlos, 2021: Less is More: Course Redesign and the Development of an Atmospheric Science Process Skills Assessment. *International Journal for the Scholarship of Teaching and Learning*: 15:2, Article 12, <https://doi.org/10.20429/ijso.2021.150212>

Kopacz, D., Flynn, W. J., Maudlin, L. C., Handlos, Z. J., Gill, S., and A. Hirsch, 2021: Involvement in and Perception of Atmospheric Science Education Research, *Bulletin of the American Meteorological Society*, 104:2, 1-39, <https://doi.org/10.1175/BAMS-D-19-0230.1>.

PUBLICATIONS (non-refereed)

Kopacz, D., 2026: [Atmospheric and Climate Science Misconceptions Database](#). University of Nebraska–Lincoln, Department of Earth and Atmospheric Sciences [web resource].

Barton, D.G., Dreher, K.L., Duan, J., Gonzalez, K., Gorman, V., Griffin, J.A., **Kopacz, D.** Omelian, J., and W. M. Smith, 2026: [How students understand course evaluations and feelings of belonging](#), Teacher Connect, University of Nebraska – Lincoln [web article].

Kopacz, D., 2021: [Research on Teaching and Learning](#), American Meteorological Society (AMS) [webpage].

Kopacz, D., 2017: [Atmospheric Science Education Research LibGuide](#) [webpage]. {currently under construction to meet new accessibility standards}

Kopacz, D., 2017: [Exploring Refraction: Creating a Superior Mirage](#). *In the Trenches*, 7:1, 9.

Kopacz, D., (2017, January 22). “[Follow That Puppy](#).” The Climate Consensus [educational website].

FUNDING (Active)

NSF, Educational Experiences in Atmospheric Science Field Campaigns: A Community Workshop, PI: Melissa Burt, **Role: Co-PI**, \$99,967 (**UNL: \$5,904**), 2024 – 2026.

FUNDING (Past)

HHMI IE3, Advancing Equity in EAS, PI: Brian Couch (UNL), **Role: EAS Department sub-award, \$19,815**, 2024 – 2025.

NSF, Developing Expertise and Building Collaborations to Advance Atmospheric Science Education Research (ASER), **Role: PI, \$97,269**, 2022 – 2025 (NCE).

University of Nebraska – Lincoln, College of Arts and Sciences (CAS) Spark Grant, Case Studies in Atmospheric Science Classrooms: Strategies Instructors Use and Directions for Future Research, **Role: PI, \$4,820**, 2022 – 2023.

CONFERENCE ACTIVITIES

Lead-author oral presentations unless otherwise noted

+Denotes student I supervised

2026 Blomberg⁺, K., and **D. Kopacz**: “Assessing the Value in and the Use of Science Communication Curriculum in Atmospheric Science Undergraduate Programs”, 106th Annual American Meteorological Society (AMS) Meeting, January 29th, [Abstract](#)

“A Database of Atmospheric and Climate Science Misconceptions: A Resource for Educators and Researchers”, 106th Annual AMS Meeting, January 29th, [Abstract](#)

Session co-chair, Atmospheric Science Education Research I, 35th Conference on Education, 106th Annual AMS Meeting, January 27th, [Abstract](#)

Session co-chair, Mind the Gaps: Preparing students, mid-careers, and new retirees for Careers in the Private Sector, 35th Conference on Education, 106th Annual AMS Meeting, January 27th, [Abstract](#)

Session co-chair, Atmospheric Science Education Research II, 35th Conference on Education, 106th Annual AMS Meeting, January 29th, [Abstract](#)

2025 **Panelist**, “Teaching Atmospheric Science: Celebrating ASER Progress and Sustaining Momentum into the Future”, Joint Session with the Presidential Conference, 34th Conference on Education, 105th Annual AMS Meeting, January 15th, [Abstract](#)

Session co-chair, Atmospheric Science Education Research I, 34th Conference on Education, 105th Annual AMS Meeting, January 30th, [Abstract](#)

“An Exploratory Study with COPUS: Identifying Behaviors and Instructional Styles in Collegiate Atmospheric Science”, 105th Annual AMS Meeting, January 14th, [Abstract](#)

CONFERENCE ACTIVITIES (CONT'D)

Lead-author oral presentations unless otherwise noted

2024 **Session co-chair**, Atmospheric Science Education Research I, 33rd Conference on Education, 104th Annual American Meteorological Society Meeting, January 30th, [Abstract](#)

Session co-chair, Atmospheric Science Education Research II, 33rd Conference on Education, 104th Annual AMS Meeting, January 30th, [Abstract](#)

“Advancing ASER: Reflections on a 3-Day Workshop”, 104th Annual Meeting, February 1st, [Abstract](#)

2023 **Session co-chair**, Atmospheric Science Education Research, 32nd Conference on Education, 103rd Annual AMS Meeting, January 10th, [Abstract](#)

“Developing Expertise and Building Collaborations to Advance Atmospheric Science Education Research”, 103rd Annual AMS Meeting, January 10th, [Abstract](#)

2022 **Session co-chair**, Atmospheric Science Education Research, 31st Conference on Education, 102nd Annual AMS Meeting, January 25th, [Abstract](#)

Session co-chair, Atmospheric Science Education Research, Part II, 31st Conference on Education, 102nd Annual AMS Meeting, January 25th, [Abstract](#)

2021 **Working group leader**, “Standing on the Shoulders of DBER Giants to Advance a New Community: Atmospheric Science Education Research (ASER)”, Earth Educator’s Rendezvous (**online**), July 15, [Abstract](#)

“A Compilation of Atmospheric and Climate Science Misconceptions”, Earth Educator’s Rendezvous (**online**), July 14, [Abstract](#)

2021 Davenport, C., Handlos, Z. J., and **D. Kopacz**: “The State of Active Learning in the Atmospheric Sciences: Strategies Instructors Use and Directions for Future Research”, Earth Educator’s Rendezvous (**online, co-presented**), July 14, [Abstract](#)

Poster presentation, What is the Strength of Evidence in Atmospheric Science Education Literature?, Inaugural X-DBER Conference (**online**), March 3, [Poster](#)

Handlos, Z. J., Davenport, C., and **D. Kopacz**: “The "State" of Active Learning Implementation in the Atmospheric Sciences: What Strategies Do Instructors Use and What Can We Do to Improve?”, 101st Annual AMS Meeting (pre-recorded and **co-presented**), January 15, [Abstract](#), [Presentation recording](#)

CONFERENCE ACTIVITIES (CONT'D)

Lead-author oral presentations unless otherwise noted

2020 “Recommendations for Improving Teaching and Learning in Atmospheric Science through Research”, 100th Annual AMS Meeting, January 13

Poster presentation, Leighty⁺, Haeli D., and **D. Kopacz**: “Review and Compilation of Misconceptions in Atmospheric and Climate Science”, 19th Annual Student Conference, Annual AMS Annual Meeting, January 12th

2019 **Invited participant**, Mind the Gap Workshop to Promote Educating the Next Generation of Atmospheric Scientists for Industry Needs, National Center for Atmospheric Research (NCAR), July 10 – 12

Co-chair, 28th Symposium on Education, Research Relevant to the Teaching and Learning of the Atmospheric Science, 99th Annual AMS Meeting, January 9

“Involvement in and Perception of Education Research in the Discipline of Atmospheric Science”, 99th Annual AMS Meeting, January 9, [Abstract and Recording](#)

Poster presentation, “Increasing the Scientific Literacy of Introductory Atmospheric Science Students: Course Redesign and Assessment”, 99th Annual American Meteorological Society Meeting, January 8, [Abstract and poster](#)

2018 **Co-organizer and lead instructor**, Atmospheric Science Education Research: A Beginner’s Guide, AMS Short Course, 98th Annual AMS Meeting, January 7, [Agenda](#)

2017 “Building Community for Teacher-Scholars in Atmospheric Science Education”, 97th Annual AMS Meeting, January 24

2016 **Discussant**, Teaching in Atmospheric Science Workshop, Earth Educator’s Rendezvous, July 21 – 22

INVITED PRESENTATIONS

2023 **Keynote speaker**, "[Advancing Atmospheric Science Education Research \(ASER\): Recent Developments and Future Directions](#)", National Center for Atmospheric Research (NCAR) Education, Engagement & Early-Career Development (EdEC) Advisory Board Meeting, November 16th

Since 2018 “What Does Weather Have to Do with Space?” Deke Slayton Space Camp (virtual; every August)

INVITED PRESENTATIONS (CONT'D)

2017 **Panelist**, Careers in Meteorology – Climatology, UNL Weatherfest Student Volunteer Banquet, April 7

“Arctic Sea Ice: Formation, Measurement and Recent Trends”, Nebraska Citizens for Science Forum, December 7

UNIVERSITY PRESENTATIONS

2024 **Co-organizer**, *Is My Teaching Working? Reflecting on Evidence from the UNL Course Demographics Suite*, UNL Teaching and Learning Symposium, November 1

2020 "Assessing Atmospheric Science Literacy and Science Process Skills", UNL Peer Review of Teaching Project Poster Session, May 12

DEPARTMENTAL PRESENTATIONS

2022 "Recent developments in the Atmospheric Science Education Research (ASER) community", Department of Earth and Atmospheric Sciences Seminar, November 28th

2019 "Involvement in and Perception of Education Research: A Survey of the Atmospheric Science Community", Department of Earth and Atmospheric Sciences Seminar, April 15

SERVICE

Committee member or participant unless otherwise noted

2025 **Chair**, College of Arts and Sciences Curriculum and Advising Committee (spring semester)

2023 – 24 University of Nebraska – Lincoln (UNL) Achievement Centered Education (ACE) Coordinators Committee

2022 – 24 UNL College of Arts and Sciences Curriculum and Advising Committee

Since 2021 **Organizer**, [AMS Special Collection on ASER](#)

2021 Invited participant, University Corporation for Atmospheric Research (UCAR) Cooperative Program for Operational Meteorology, Education, and Training (COMET) Focus Group on Supporting Universities, December 3

2020 – 25 UNL EAS Curriculum Committee, University of Nebraska – Lincoln

SERVICE (CONT'D)

Committee member or participant unless otherwise noted

- 2020 – 25 **Coordinator**, Earth & Atmospheric Sciences Department (EAS) All Majors Meeting, University of Nebraska – Lincoln (annually)
- HHMI Inclusive Excellence 3 Learning Community Project: Measuring, supporting, and rewarding inclusive teaching (PI: Brian Couch), UNL Departmental Action Team
- 2019 Regional Climate Modeler Search Committee, UNL EAS
- Since 2018 Graduate Committee for College STEM Education Minor, UNL CAS
- 2018 – 19 **Fellow (selected)**, UNL ACE Leadership Fellows Program
- Appointed** to American Meteorological Society Ad Hoc Committee on ASER, Nov 15 – Jun 1, Provided written guidance to AMS Education and Human Resources (EHR) Commissioner on enhancing support for emergent ASER community
- 2018 **Panelist**, National Association of Geoscience Teachers (NAGT) Geoscience Education Research (GER) Division, Webinar for Early Career Education Researchers
- 2017 – 25 **Recruiter**, AMS Annual Student Conference Career Fair (annually)
- 2017 – 20 **Committee member & Past Chair**, AMS Committee of Judges for Undergraduate Awards
- 2017 – 19 UNL EAS Information Committee
- Co-coordinator**, Students of Earth and Atmospheric Sciences (EAS) Success Program (monthly)
- Co-coordinator**, UNL EAS Department All Majors Meeting (annually)
- Co-coordinator**, Career Night Event, UNL EAS (biennial)
- 2017 **Invited Panelist**, Research and Academia Career Panel, 46th Northeastern Storm Conference, April 24th
- Owner**, [Atmospheric Science Education Research listserv](#)
- Ad Hoc Reviewer**, Bulletin of American Meteorological Society

OUTREACH

- 2020 – 23 University of Nebraska State Museum (UNSM) Dinosaurs & Disasters, Various Meteorology – Climatology exhibits (annual event) [[sample virtual activity](#) & [video introduction](#)]
- 2018 – 19 **Faculty coordinator**, UNSM Dinosaurs & Disasters, Designed exhibits and coordinated student volunteers
- Since 2018 **Consultant & Volunteer**, UNL Big Red Summer Academic Camp: Discover Weather & Climate Science, June 10 – June 15
- Careers in Atmospheric Science, UNL Women in Science Conference Banquet, April 6
- 2015 – 17 **Faculty advisor**, Women in Science group, Lyndon State College
 Climate Change Communication group, Lyndon State College

TEACHING

Professional Development

Participant unless otherwise noted

- 2025 – 26 **Ambassador**, UNL Accessibility Ambassador Program, **competitively selected**
- 2025 UNL Center for Transformative Teaching (CTT) Inclusive Teaching & Learning Community
- UNL CTT AI Skill Share Learning Community
- UNL CTT Accessibility Workshops
- 2024 **Co-organizer**, UNL Teaching & Learning Symposium, “Is My Teaching Working? Reflecting on Evidence from the UNL Course Demographics Suite”
- 2023 **Workshop organizer**, Developing Expertise and Building Collaborations to Advance ASER (NSF funded), May 22 – 24th, [Workshop flyer](#)
- 2021 Teaching the Anthropocene Workshop, Earth Educator’s Rendezvous
- Statistics in Geosciences Workshop, Earth Educator’s Rendezvous
- 2020 Using Zoom to Facilitate a Hybrid Course, UNL
- Designing Your Course – UNL CAS Flexible Course Models
- 2019 UNL Peer Review of Teaching Project - Advanced Program, **competitively selected participant**

TEACHING (CONT'D)

Professional Development (CONT'D)

Participant unless otherwise noted

- 2018 UNL Peer Instruction Workshop (**biweekly**)
- Since 2017 UNL Teaching & Learning Symposium (Fall and Spring workshops)
- 2017 UNL College of Arts and Sciences Teaching Academy Mentorship Program
(semester-long; meetings with Teaching Academy Fellow)

Faculty participant, UNL NSF CAREER project “The Winding Roads to Effective Teaching: Characterizing the Progressions in Instructional Knowledge and Practices of STEM Faculty” (PI: Marilyne Stains; reflective analysis of my instructional practices)

COURSES DEVELOPED & TAUGHT

Undergraduate unless otherwise noted

Graduate Teaching Assistant Pedagogical Training Workshop (multi-day; in-person + [asynchronous modules](#)) {currently under construction to meet new accessibility standards}
Weather, Climate, and Climate Change (**graduate-level** for K-12 teachers)
Physical Meteorology labs
Atmospheric Thermodynamics labs
Global Warming: Science, Impacts, Solutions
Introduction to Climatology
Intro Scientific Programming (MATLAB)
Weather & Climate labs

Courses Taught

Undergraduate unless otherwise noted

Mesoscale Meteorology
Remote Sensing
Advanced Synoptic Meteorology (laboratory)
Physical Meteorology (**graduate-level** component)
Atmospheric Thermodynamics
Introduction to Atmospheric Science (calculus-based)
Severe & Unusual Weather (introductory)
Elementary Oceanography (online and hybrid)
Quantitative Literacy
Introductory Statistics

STUDENTS MENTORED

Graduate students (chair)

Katy Herber, M.S., Thesis topic: *Cognitive and Behavioral Responses to Flood Warnings in the United States*, Since 2025

Kierstin Blomberg, Ph.D., Dissertation topic: *Assessing the Value in and the Use of Science Communication Curriculum in Atmospheric Science Undergraduate Programs*, Since 2024

Haeli Leighty, M.S., Thesis title: “*A Compilation, Analysis, and Categorization of 403 Atmospheric and Climate Science Misconceptions*”, Graduated 2022

Undergraduates supervised

Anne Lammes, Research Assistant, NSF-funded workshop, “Expertise and Building Collaborations to Advance ASER”, 2022 – 2023

Anna James, Research Assistant, UNL – CAS Spark Fund, Atmospheric Science Classrooms: Strategies Instructors Use and Directions for Future Research, 2022 – 2023

HONORS and AWARDS

2026 **J.B. Coffman Excellence Award**, UNL EAS (Excellence in research)

2023 – 26 **Dean's Fellow of the CAS Teaching Academy**, UNL College of Arts and Sciences (CAS)

2021 **Lawson Award**, UNL EAS (Outstanding contributions to teaching and mentoring)

MEDIA INTERVIEWS

2025 Nebraska Nightly, “[Weather Balloon Grounded](#)”, April 15

2021 Nebraska News Service, “[As climate change continues to cause greater impacts in Nebraska, experts search for solutions](#)”, December 13

RESEARCH RELATED PROFESSIONAL DEVELOPMENT

2026 UNL Research & Innovation Convening, May 4

2018 Foundations 101, UNL Faculty Panel: Collaborating with Private Foundations, & Grant Writing for Private Foundations Workshop, UNL Fall Research Fair, November 6

RESEARCH RELATED PROFESSIONAL DEVELOPMENT (CONT'D)

2017 “One Big Idea, Multiple Missions: Maximizing Your Opportunities for Research Funding” Luncheon, UNL, November 6

“Research at Nebraska” Seminar, UNL, September 28

RESEARCH AREAS

Atmospheric Science Education Research (ASER)
Weather, climate change communication
Scientific literacy
Pedagogy (includes field-based teaching & learning)

ADDITIONAL QUALIFICATIONS AND TRAINING

Human Subjects Research Training Certificate (CITI) (Expires: 2/7/2027)
Diversity and Inclusion Training, November 1st, 2021

RELATED PROFESSIONAL SKILLS

Strong skills in survey development and interview design
Extensive experience with both quantitative and qualitative data collection and analysis
Qualtrics
MATLAB
IDV (Integrated Data Viewer)
SHARPy
GRLevel 3 and GR2Analyst
SMART board technologies
Online/hybrid course management and development using Moodle, Canvas and Desire2Learn
Budget management
Field experience with pilot balloons, Vaisala RS41 radiosonde system and Windsond system

PROFESSIONAL MEMBERSHIPS

Since 2016 National Association of Geoscience Teachers - Geoscience Education
Research Division (NAGT – GER)
Since 2010 Earth Science Women’s Network
Since 2009 American Meteorological Society