

Alanna E. Wedum

Graduate Student Research Assistant

Climate and Space Sciences and Engineering (CLaSP)
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RESEARCH	Arctic and high-altitude precipitation processes Clouds, snow, and meteorology processes Ground-based remote and in situ sensing, and satellite observations Assessment of atmospheric river impacts on precipitation, clouds, and the Greenland Ice Sheet
EDUCATION	2022-Present Doctoral Degree University of Michigan – Ann Arbor - Climate and Space Sciences and Engineering June 2022 Bachelor of Science Degree University of Washington – Seattle - Meteorology (with honors) May 2016 Bachelor of Arts Degree University of Colorado – Colorado Springs – Geography, GIS
PROFESSIONAL EXPERIENCE	2022-Present Graduate Student Research Assistant CLaSP, UofM – Pettersen Research Group WIN 2025 Grader (Remote Sensing Applications) FALL 2025 Grader (Climate Physics) 2021-2022 Undergraduate Research Assistant ATMS, UW – Alexander Lab 2016-2018 Cartography Technician II, Marine Sector Garmin International, Olathe KS
SERVICE AND AWARDS	2024-2026 Co-President, Graduate Undergraduate Student Organization (GUSTO) Department of Climate and Space Sciences and Engineering, UofM Acted as Co-President of GUSTO, a department sponsored student organization with the goal of acting as the voice of the student body and an intermediary between faculty, staff, and students. 2025-2026 Student Ally for Diversity Grant for the development of the CLaSP Ethics Course Awarded two years of grants valuing \$10,000 with Professor Michael Liemohn for the development of the CLaSP Ethics Course. 2022, 2026 Rackham Merit Fellowship Awarded two years of PhD scholarship, fully covering tuition, stipend, and benefits. SUM 2021 NASA Summer Undergraduate Research Program (SURP) Scholar Summer undergraduate research program advised under Dr. Becky Alexander.
FIELD EXPERIENCE	Jan-Mar 2025 Snow Sensitivity to Clouds in a Mountain Environment (S2noCLiME) Radiosonde launches, forecasting - Steamboat Springs, Colorado Jan 2022 Alaskan Layered Pollution and Chemical Analysis (ALPACA) Sampling, records - Fairbanks, Alaska

SYMPOSIA AND CONFERENCES	+denotes poster, *denotes oral 2026 + Wedum et al., “A Satellite-Based Perspective on Atmospheric River Precipitation and Clouds in the Greenland-North Atlantic Region”, 2026 AMS Madison Summit + Wedum et al., “Impacts of Atmospheric Rivers in Central Greenland: Snowfall, Clouds, and Atmospheric State”, 2026 AMS Madison Summit + Wedum et al., “Impacts of Atmospheric Rivers in Central Greenland: Snowfall, Clouds, and Atmospheric State”, 4th (AC)³ Science Conference on Arctic Amplification 2025 * Wedum et al., “Tracking Atmospheric Rivers to Greenland’s Summit: A Lagrangian and Satellite-Based Characterization of Evolving Snowfall and Cloud Properties”, Institute of Climate and Atmospheric Science, University of Leeds Department Seminar (Invited) + Wedum et al., “Tracking Atmospheric Rivers to Greenland’s Summit: A Lagrangian and Satellite-based Characterization of Evolving Snowfall and Cloud Properties”, 5th International Snowfall Workshop * Wedum et al., “Impacts of Atmospheric Rivers in Central Greenland: Snowfall, Clouds, and Atmospheric State”, AMS Conference on Polar Meteorology 2024 * Wedum et al., “Quantifying the Impacts of Atmospheric Rivers on Snowfall Processes in Central Greenland”, AGU Fall Meeting 2023 + Wedum et al., “Quantifying the Impacts of Atmospheric Rivers on Snowfall Over Central Greenland”, Michigan Geophysical Union + Wedum et al., “Quantifying Snowfall at Summit”, Midwest Student Conference on Atmospheric Research 2021 + Wedum et al., “Formation of Perchlorate in Planetary Atmospheres”, AGU Fall Meeting + Wedum et al., “Formation of Perchlorate in Planetary Atmospheres”, NASA SURP Symposium
PUBLICATIONS	Submitted A.E. Wedum, C. Pettersen, M. Mateling, K.S. Mattingly, T. L’Ecuyer, M.D. Shupe, H. (July 2026) Guy: Snow, Rain, and Atmospheric Rivers in the Greenland-North Atlantic Region from 15 years of CloudSat, Geophysical Research Letters, 2026 A.E. Wedum, C. Pettersen, H. Guy, M.R. Gallagher, M.D. Shupe, K.S. Mattingly: 2026 Impacts of Atmospheric Rivers in Central Greenland: Snowfall, Clouds, and Atmospheric State, Journal of Geophysical Research: Atmospheres, 2026, doi: 10.1029/2025JD044309 Allison Moon, Ursula Jongebloed, and 22 others (including Alanna Wedum): 2023 Primary Sulfate is the Dominant Source of Particulate Sulfate During Winter in Fairbanks, Alaska, ACS ES&T Air, 2023, doi: 10.1021/acsestair.3c00023 Yuk-Chun Chan, Lyatt Jaeglé, Pedro Campuzano-Jost, David C. Catling, Jihong Cole-Dai, Vasile I. Furdui, W. Andrew Jackson, Jose L. Jimenez, Dongwook Kim, Alanna E. Wedum, Becky Alexander: Stratospheric Gas-Phase Production Alone Cannot Explain Observations of Atmospheric Perchlorate on Earth, Geophysical Research Letters, 2023, doi: 10.1029/2023GL102745