CHENGFENG FENG

Research Associate
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PROFESSIONAL EXPERIENCE

7/2024 - Present **Research Associate, Atmospheric Sciences, University of Utah**, Salt Lake City, Utah, United States
Advisor: Dr. Zhaoxia Pu

EDUCATION

9/2018 - 6/2024 **Ph.D., Atmospheric Sciences, University of Utah**, Salt Lake City, Utah, United States
Dissertation: Assimilation of All-Sky GOES-16 Water Vapor Channels, Aeolus Satellite Winds, and Airborne Lidar Observations for Improved Numerical Simulations of Tropical Cyclones and Convections Link
Advisor: Dr. Zhaoxia Pu

9/2015 - 8/2018 **M.S., Meteorology, Key Laboratory of Mesoscale Severe Weather, Nanjing University**, Nanjing, China
Thesis: Interdecadal Change of Tropical Cyclone Activity in the Western North Pacific Link
Advisor: Dr. Juan Fang

9/2011 - 8/2015 **B.S., Atmospheric Sciences, Kuang Yaming Honors Class'11, Nanjing University**, Nanjing, China

RESEARCH INTEREST

Data Assimilation Investigate the impacts of assimilating **satellite and aircraft-based observations** on simulations of **Tropical Cyclones and African Easterly Waves** with data processing techniques, such as **variational bias correction, and interchannel correlations**

Cold Fog Understand and improve simulations of **cold fogs** over complex terrains with comprehensive observations, including their microphysics properties and visibility calculation

FIRST-AUTHORED PUBLICATIONS

2025 **Feng, C.**, and Z. Pu, 2025: All-sky Assimilation of GOES-16 Water Vapor Channels in Consideration of Cloud-Dependent Interchannel Observation-Error Correlations. Monthly Weather Review, 153(1), 23-47, https://doi.org/10.1175/MWR-D-24-0038.1.

2023 **Feng, C.**, and Z. Pu, 2023: The Impacts of Assimilating Aeolus Horizontal Line-of-Sight Winds on Numerical Predictions of Hurricane Ida (2021) and a Mesoscale Convective System over the Atlantic Ocean. Atmospheric Measurement Techniques, 16(10), 2691-2708, https://doi.org/10.5194/amt-16-2691-2023.

2022 **Feng, C.**, and Z. Pu, 2022: A Bias Correction Scheme with the Symmetric Cloud Proxy Variable and Its Influence on Assimilating All-Sky GOES-16 Brightness Temperatures. Monthly Weather Review, 150(12), 3305-3323, https://doi.org/10.1175/MWR-D-21-0333.1.

In Review **Feng, C.**, Z. Pu, and O. Ge: Sensitivity of Numerical Simulations of Ephemeral Shallow Cold Radiation Fog to Snow Cover in Initial Conditions During the CFACT Field Campaign. Submitted to Weather and Forecasting.

Feng, C., Z. Pu, A. R. Nehrir, K. M. Bedka, and J. Doyle: Benefits of Assimilating DAWN and HALO Observations for Numerical Simulations of Tropical Convective Systems Associated with African Easterly Waves During NASA's CPEX-AW and CPEX-CV. Submitted to the Journal of Atmospheric and Oceanic Technology.

In Preparation **Feng, C.**, and Z. Pu: Assimilation of TROPICS temperature and moisture retrievals in the Hurricane Analysis and Forecast System (HAFS): Assessment through Two Atlantic Hurricane Cases

Feng, C., and Z. Pu: Influence of Time and Vertical Resolution and Soil Thermal Conductivity on Simulating Cold Fogs During CFACT

Feng, C., Z. Pu., and I. Gultepe: Comparisons between Observations and Simulations of Two Fog Cases During CFACT in the Aspects of Microphysics and Visibility

CO-AUTHORED PUBLICATIONS

2022 Wei, Y., F. Liu, H. Ren, G. Chen, **C. Feng**, and B. Chen, 2022: Western Pacific Premoistening for Eastward-Propagating BSISO and Its ENSO Modulation. Journal of Climate, 35(15), 4979–4996, https://doi.org/10.1175/JCLI-D-21-0923.1.

In Preparation — Stoddard, J., **C. Feng**, and Z. Pu: Assimilating CYGNSS Ocean Surface Winds to Improve the Numerical Prediction of Tropical Cyclones Using the Hurricane Analysis and Forecast System (HAFS).

SELECTED HONORS AND AWARDS

2025 — **Group Achievement Award** to Convective Processes Experiment-AW and -CV for exceptional accomplishments of the Convective Processes Experiment (CPEX) team and their contribution to atmospheric and weather research

2023 — **First Place Oral Presentation** at the 27th Conference on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface (IOAS-AOLS) during the 103rd AMS annual meeting: A bias correction scheme with the symmetric cloud proxy variable and its influence on assimilating all-sky GOES-16 brightness temperatures

Edward J. Zipser Award for Excellence in Graduate Research Award in the Department of Atmospheric Sciences at the University of Utah

2016, 2017 — The First-Class Graduate Student Scholarship

PROFESSIONAL SERVICE AND MEMBERSHIPS

2025 — Session Co-Chair at the AMS's 29th Conference on IOAS-AOLS

2023 - Present — Reviewer for Weather and Forecasting, Journal of Advances in Modeling Earth Systems, The Quarterly Journal of the Royal Meteorological Society

2018 - Present — Member of American Meteorological Society (AMS)

PRESENTATIONS

2025 — **Feng, C.**, and Z. Pu, 2025: All-Sky Assimilation of GOES-16 Water Vapor Channels in Consideration of Cloud-Dependent Interchannel Observation-Error Correlations. 105th AMS Annual Meeting, 29th Conference on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface (IOAS-AOLS), New Orleans, Louisiana, 12 - 16 January 2025.

Feng, C., Z. Pu, A. R. Nehrir, K. M. Bedka, and J. Doyle, 2025: Impacts of Assimilating DAWN and HALO Observations on Numerical Simulations of Tropical Convective Systems Associated with African Easterly Waves During NASA's CPEX-AW and CPEX-CV. 105th AMS Annual Meeting, 4th Symposium on Mesoscale Processes, New Orleans, Louisiana, 12 - 16 January 2025.

2024 — **Feng, C.**, and Z. Pu, 2024: All-Sky Assimilation of GOES-16 Water Vapor Channels with Accounting for Cloud-Dependent Interchannel Correlations. 104th AMS Annual Meeting, 28th Conference on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface (IOAS-AOLS), Baltimore, Maryland, 28 January - 1 February 2024.

2023 — **Feng, C.**, and Z. Pu, 2023: A Bias Correction Scheme with the Symmetric Cloud Proxy Variable and Its Influence on Assimilating All-Sky GOES-16 Brightness Temperatures. 103rd AMS Annual Meeting, 27th Conference on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface (IOAS-AOLS), Denver, Colorado, 8 - 12 January 2023.

2021 — **Feng, C.**, and Z. Pu, 2021: Bias Correction for All-Sky Satellite Data Assimilation with GOES-R Using Symmetric Cloud Proxy Variables. 101st AMS Annual Meeting, 25th Conference on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface (IOAS-AOLS), Virtual Meeting, 10-15 January 2021.

Feng, C., and Z. Pu, 2021: Bias Correction with the Symmetric Cloud Proxy Variable and its Influence on Assimilating All-Sky GOES-16 Brightness Temperatures. 34th Conference on Hurricanes and Tropical Meteorology, AMS, Virtual Meeting, 10 - 14 May 2021.