

Curriculum Vita Keith A. Brewster, Ph.D.

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Keith Brewster earned a B.S. in Meteorology, magna cum laude, from the University of Utah in 1981, and an M.S. in Meteorology from the University of Oklahoma in 1984. His Ph.D. in Meteorology was earned at the University of Oklahoma in 1999, with a dissertation entitled, "Phase-Correcting Data Assimilation and Application to Storm-Scale Weather Prediction." The phase correction technique is an automated scheme to use radar and other observations to correct thunderstorm-scale numerical forecasts for phase or position errors as part of the data assimilation process. Keith is currently a Senior Research Scientist and Associate Director for the Center for Analysis and Prediction of Storms (CAPS) at the University of Oklahoma. He is also an Adjunct Associate Professor in the School of Meteorology.

Dr. Brewster's research interests include quality control and analysis of data from modern meteorological data systems, including Doppler weather radars, aircraft, wind profilers, satellites and automated surface observing systems. His most recent work has focused on optimizing the use numerical weather prediction models and ensembles for prediction of thunderstorms, tornadoes, flash floods and other high impact weather events. As part of the CAPS team, he has implemented an analysis and assimilation system, known as ADAS (ARPS Data Assimilation System), the ARPS 3DVAR and the IAU-Variable-Dependent Timing, which have been used in real-time thunderstorm forecasting efforts at CAPS and several other sites. He has worked on developing and testing methods of assimilating data from a network of X-band radars as part of the NSF Collaborative Adaptive Sensing of the Atmosphere (CASA) engineering research center, developing methods of emulating dual-polarization radar data from numerical weather prediction models for the X-band radar network as well as airborne radars. Recently he has been working with the NOAA Hydrometeorology Testbeds to develop NWP ensembles and ensemble consensus-finding methods, including the novel Spatial Aligned Mean, and machine learning methods to predict heavy rains and snowfall in the winter.

Dr. Brewster is a past Associate Editor for the Journal of Geophysical Research-Atmospheres and served on the organizing committee the National Severe Weather Workshop (2001-2012), on the NASA AIRS Science Team, and on the Joint AMSR Science Team (NASA/JNSDA). He is currently a member of the OU Unmanned Systems Research Institute and the Sooner Renewable Energy Initiative Steering Committee. He is co-chair of the NOAA Unified Forecasting System Post-Processing committee and member of the AMS Nationwide Network of Networks Committee. He has served as President of the Central Oklahoma Chapter of the AMS/NWA, and is a member of the AMS, American Geophysical Union, IEEE/GRSS, and Phi Beta Kappa.