

Keith A. Brewster, Ph.D.

Senior Research Scientist & Associate Director, Center for Analysis and Prediction of Storms

1 PROFESSIONAL PREPARATION

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|------------------------|-------------|-------|------|
| University of Utah | Meteorology | B.S. | 1981 |
| University of Oklahoma | Meteorology | M.S. | 1984 |
| University of Oklahoma | Meteorology | Ph.D. | 1999 |

2 APPOINTMENTS

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| 2008-present | Senior Research Scientist & Associate Director, Center for Analysis and Prediction of Storms (CAPS), University of Oklahoma |
| 1999-2008 | Senior Research Scientist, CAPS, University of Oklahoma |
| 2006-present | Adjunct Associate Professor, School of Meteorology, University of Oklahoma |
| 2002-2006 | Adjunct Assistant Professor, School of Meteorology, University of Oklahoma |
| 1997-1999 | Research Scientist, CAPS, University of Oklahoma |
| 1993-1997 | Research Associate, CAPS, University of Oklahoma |
| 1989-1993 | Centennial Graduate Research Assistant, School of Meteorology, University of Oklahoma |
| 1984-1989 | Research Meteorologist, TS Infosystems, under contract to NOAA/PROFS (now NOAA/ESRL/GSD), MAPS (RUC) analysis and model development group |

3 PUBLICATIONS (10 most significant to proposal)

- Brewster, K.A., D.B. Weber, S. Marru, K.W. Thomas, D. Gannon, K. Droegemeier, J. Alameda, S. J. Weiss, 2008: On-Demand Severe Weather Forecasts Using TeraGrid via the LEAD Portal. *Proceedings, TeraGrid08*, Las Vegas, NV.
- Brewster, K. A., J. Brotzge, K. W. Thomas, Y. Wang, M. Xue, J. Gao, D. Weber, and K. Howe, 2008: High resolution assimilation of CASA and NEXRAD radar data in near-real time: Results from Spring 2007 and plans for Spring of 2008. *12th Conf. IOAS-AOLS*, New Orleans, LA, Amer. Meteor. Soc
- Brewster, K., 2006: Merging AMSR-E hydrometeor data with coastal radar data for short term high-resolution forecasts of Hurricane Ivan, *14th Conference on Satellite Meteorology and Oceanography*, Atlanta, GA, AMS, Boston. Conference CD, Paper P5.7.
- Sampson, S., K. Brewster, G. Jedlovec and W. Lapenta, 2006: Use of AIRS/AMSU retrieved soundings to improve prediction of Gulf moisture return. *14th Conference on Satellite Meteorology and Oceanography*, Atlanta, GA, AMS, Boston. Conference CD, Paper P5.4.
- Brewster, K., M. Hu, M. Xue, and J. Gao, 2005: Efficient assimilation of radar data at high resolution for short range numerical weather prediction. World Weather Research Program Symposium and Nowcasting and Very Short-Range Forecasting WSN05, Toulouse, France. WMO World Weather Research Program, Geneva, Switzerland. Symposium CD, Paper 3.06.
- Brewster, K., 2002: Recent advances in the diabatic initialization of a non-hydrostatic numerical model. *Preprints, 21st Conf. on Severe Local Storms*, and *Preprints, 15th Conf. Num. Wea. Pred. and 19th Conf. Wea. Anal. Forecasting*, San Antonio, TX, Amer. Meteor. Soc., J6.3.
- Hu, M., M. Xue, and K. Brewster, 2006: 3DVAR and cloud analysis with WSR-88D Level-II data for the prediction of the Fort Worth tornadic thunderstorms. Part I: Cloud analysis and its impact. *Mon. Wea. Rev.*, **134**, 675-698.
- Lazarus, S.M., C.M. Ciliberti, J.D. Horel and K.A. Brewster, 2002: Near-real time applications of a mesoscale analysis system to complex terrain. *Wea. and Forecasting*, **17**, 971-1000.
- Gao, J., M. Xue, K. Brewster, and K.K. Droegemeier, 2004: A Three-dimensional variational data analysis method with recursive filter for Doppler radars. *J. Atmos. and Oceanic Tech.*,

21, 457-469.

Xue, M., K. K. Droegemeier, V. Wong, A. Shapiro, K. Brewster, F. Carr, D. Weber, Y. Liu, and D.-H. Wang, 2001: The Advanced Regional Prediction System (ARPS) – A multiscale nonhydrostatic atmospheric simulation and prediction tool. Part II: Model physics and applications. *Meteor. Atmos. Physics*, **76**, 143-165.

4 SYNERGISTIC ACTIVITIES

Developer of ADAS analysis software used as part of ARPS modeling system, for initializing the WRF model, or as stand-alone analysis package.

Investigator for the Linked Environments for Atmospheric Discovery (LEAD) project.

Member of WRF Model Working Groups on Standard Initialization Procedures and Data Handling and Archiving.

Member of Planning Committee and Vendor Coordinator, annual National Severe Weather Workshop 2001-2008, Norman, OK.

Associate Editor, *Journal of Geophysical Research-Atmospheres*

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6 COLLABORATORS & OTHER AFFILIATIONS

a. Collaborators and Co-Editors

Drs. Jerry Brotzge, Frederick Carr, Kelvin Droegemeier, Jidong Gao, Alan Shapiro, Daniel Weber, Luther White and Ming Xue, University of Oklahoma

Drs. McLaughlin, Michael Zink, University of Massachusetts

Drs. Steve Goodman, Gary Jedlovic, and Bill Lapenta, NASA/MSFC/GHCC

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b. Graduate and Postdoctoral Advisors

Dr. Frederick Carr, University of Oklahoma School of Meteorology (Ph.D. Advisor)

Dr. Dusan Zrnić, NOAA/National Severe Storms Laboratory (M.S. Advisor)

c. Thesis Advisor (2 students)

Shanna Sampson, NOAA-NESDIS, Camp Springs, Maryland (2006 M.S. Thesis)

Yun Zhou, Ph.D. student, University of Maryland (2006 M.S. Thesis)

