

JEFFREY L. ANDERSON

### *EDUCATION*

B.S. in Meteorology and Computer Science, University of Utah, 1984.

M.S. in Computer Science, University of California, Berkeley, 1986.

Thesis title: A Network Definition and Solution of Simulation Problems.

Ph.D. in Atmospheric and Oceanic Sciences, Princeton University, 1990.

Thesis title: Low Frequency Variability and the Instability of Zonally Varying Atmospheric Flows.

### *WORK HISTORY*

1981-1987 Meteorologist, National Weather Service Western Region Scientific Services Division, summers/  
part-time.  
1990-1992 Postdoctoral Scientist, Climate Analysis Center / National Meteorological Center.  
1992-1995 Meteorologist, Geophysical Fluid Dynamics Laboratory.  
1993-2001 Lecturer, Atmospheric and Oceanic Sciences, Princeton University.  
1995-2001 Head of Experimental Prediction Group, Geophysical Fluid Dynamics Laboratory.  
1998-2001 Head of Model Infrastructure Team, Geophysical Fluid Dynamics Laboratory.  
2001-2003 Coordinator of NCAR Data Assimilation Initiative.  
2003- Scientist 3 and Section Leader, Data Assimilation Research Section, Institute for Mathematics  
Applied to Geosciences, NCAR

### *SCIENTIFIC/TECHNICAL ACCOMPLISHMENTS*

1983-1984 Co-developer of real-time meso-network analysis system for LA Olympic Games.  
1983-1985 Developer of NWS AFOS operational Mesoscale Analysis System.  
1995-2001 Principal developer of GFDL B-grid AGCM (now known as GFDL AM model).  
1996-1997 Principal developer of GFDL parallel spectral dynamical core.  
1997-2001 Principal architect of GFDL's Flexible Modeling System (FMS) Infrastructure.  
1998-1999 Designer of GFDL 'exchange grid' parallel climate model coupling system.  
2001-2003 Designer of NCEP's experimental ensemble filter data assimilation system.  
2001- Architect of Data Assimilation Research Testbed (DART) infrastructure.

### *COMMUNITY SERVICE*

#### Teaching

1992-1998 AOS 575: Numerical Methods for Atmospheric and Oceanic Modeling, Princeton University.  
Course for second year graduate students.

#### Students and Postdocs:

Advisor, Shree Khare	Ph.D., Princeton University, 2005.
Advisor, Frederic Vitart	Ph.D., Princeton University, 1998.
Advisor, Andrew Wittenberg	M.S., Princeton University, 1998.
Advisor, Nadeja Grianik	M.S., Princeton University, 2001.
Advisor, Shree Khare	M.S., Princeton University, 2002.
Supervisor, Xiu-Qun Yang	Postdoc, Princeton University, 1995-1997.
Supervisor, Shaoqing Zhang	Postdoc, Princeton University, 1998-2001.
Advisor, Veronika Hubeny	Summer student, Princeton University, 1995.
Advisor, Reyco Henning	Summer student, Princeton University, 1997.
Thesis Committee, Valentina Pavan	Ph.D., Princeton University, 1994.
Thesis Committee, Lisa Goddard	Ph.D., Princeton University, 1995.
Thesis Committee, Yunqing Zhang	Ph.D., Princeton University, 1997.
Thesis Committee, Tapio Schneider	Ph.D., Princeton University, 2001.
Thesis Committee, David Baker	Ph.D., Princeton University, 2001.
Thesis Committee, Scott Harper	Ph.D., Princeton University, 2001.
Thesis Committee, Natalie Ross	M.S., University of Colorado, 2006.

### Editorships:

- 1996-97 Associate Editor, American Meteorological Society Glossary of Meteorology.  
1999 Associate Editor, Quarterly Journal of Royal Meteorological Society.

### Committees and Advisory Panels:

- 1995-2000 NASA Data Assimilation Office Scientific Advisory Panel.  
1996-1999 Princeton University AOS Program Graduate Work Committee (chair 1997).  
1997- Member/organizer of U.S. Coordinated Global Modeling Committee.  
1997-2001 Leader of GFDL coordinated global modeling development team.  
1999-2001 NOAA Seasonal Interannual Budget Team.  
1999-2003 U.S. CLIVAR Seasonal Interannual Prediction committee.  
2000 NOAA research GFDL millennial review panel.  
2000 OSTP/USGCRP advisory panel on climate modeling (Rood report).  
1999-2001 NASA Seasonal Interannual Prediction Project Advisory Board.  
2002-2003 Advisory committee for NASA OPeNDAP Data Access Protocol project.  
2003- Joint Center for Satellite Data Assimilation Science Steering Committee.  
2003-2004 NCAR reorganization committee math institute planning committee.  
2003 Lecturer, CAOS predictability workshop, Courant Institute.  
2005 Lecturer, SAMSI workshop on data assimilation in geosciences.  
2004-2006 Thorpex/NCEP ensemble prediction research panel.

### Tutorials:

- 2003 AGU Union Session tutorial presentation on ensemble data assimilation.  
2004 DART tutorial presentations at Princeton University & Metron Scientific.  
2005 DART tutorial presentations, NCAR & University of Arizona.  
2006 DART tutorial presentation, University of Utah.

### Professional Service:

- 2003 Organized ASP summer colloquium, Data Assimilation for Atmospheric and Climate System Prediction.  
2003- Co-I for Geophysical Statistics Project.  
2004-05 Organizer of IMAGE Theme of the Year summer workshop on ensemble Data Assimilation.  
2005-2006 NCAR Opportunity Fund Review Panel (chair in 2006).

### *AWARDS*

- 1984 NOAA medal for support of Los Angeles Olympic Games.  
1984-1987 NSF Graduate Research Fellowship.  
1987-1990 NASA Graduate Research Fellowship.  
2002 NOAA Research Employee of the Year (for development of Flexible Modeling System).  
2002 AMS Special Award for Editors of Glossary of Meteorology.

### *RESEARCH GRANTS*

- 1996-1999 Co-PI, NOAA/University Climate Consortium, NOAA/OGP.  
1998-2000 PI, Predictability of the Atmosphere and Ocean Departmental Research Initiative Grant, ONR.  
2000-2002 Co-PI, Advanced Data Assimilation for Seasonal Interannual Prediction, NOAA/OGP.  
2001 Co-PI, original submission to NASA/CAN, now known as ESMF. My assignment from GFDL to NCAR necessitated changing the GFDL PI.  
2002-2004 Co-PI, Ensemble-Based State Estimation for a Next-Generation Weather Forecasting Model: NSF ITR/AP Collaborative Research Grant.

Note: GFDL did not allow employees to obtain soft-funding before 1998; NOAA employees are generally not eligible to apply for NSF funding.

## *PUBLICATIONS:*

### Theses:

- 1) Anderson, J., 1986: A Network Definition and Solution of Simulation Problems. Lawrence Berkeley Laboratory Technical Report, LBL-21572.
- 2) Anderson, J., 1990: Low Frequency Variability and the Instability of Zonally Varying Atmospheric Flows. Ph.D. Thesis, Princeton University.

### Refereed Articles:

- 3) \*Anderson, J., 1991: The robustness of barotropic unstable modes in a zonally varying atmosphere. *Journal of the Atmospheric Sciences*, **48**, 2393-2410.
- 4) \*Anderson, J., 1992: The instability of finite amplitude Rossby Waves on the infinite beta-plane. *Geophysical and Astrophysical Fluid Dynamics*, **63**, 1-27.
- 5) \*Anderson, J., 1992: Barotropic stationary states and persistent anomalies in the atmosphere. *Journal of the Atmospheric Sciences*, **49**, 1709-1722.
- 6) \*Anderson, J., 1992: Barotropic and baroclinic instability of Rossby Waves on the infinite beta-plane. *Geophysical and Astrophysical Fluid Dynamics*, **66**, 25-45.
- 7) Anderson, J., 1993: The climatology of blocking in a numerical forecast model. *Journal of Climate*, **6**, 1041-1056.
- 8) Anderson, J., and H. Van den Dool, 1994: Skill and return of skill in dynamic extended-range forecasts. *Monthly Weather Review*, **122**, 507-516.
- 9) Anderson, J., 1995: A simulation of atmospheric blocking with a forced barotropic model. *Journal of the Atmospheric Sciences*, **52**, 2593-2608.
- 10) Anderson, J., 1996: Selection of initial conditions for ensemble forecasts in a simple perfect model framework. *Journal of the Atmospheric Sciences*, **53**, 22-36.
- 11) Lee, S., and J. Anderson, 1996: A simulation of atmospheric storm tracks with a forced barotropic model. *Journal of the Atmospheric Sciences*, **53**, 2113-2128.
- 12) Anderson, J., and W. F. Stern, 1996: Evaluating the potential predictive utility of ensemble forecasts. *Journal of Climate*, **9**, 260-269.
- 13) Anderson, J., 1996: A method for producing and evaluating probabilistic forecasts from ensemble model integrations. *Journal of Climate*, **9**, 1518-1530.
- 14) Anderson, J., and V. Hubeny, 1997: A reexamination of methods for evaluating the predictability of the atmosphere. *Nonlinear Processes in Geosciences*, **4**, 157-166.
- 15) Vitart, F., and J. Anderson, 1997: Simulation of interannual variability of tropical storm frequency in an ensemble of GCM integrations. *Journal of Climate*, **10**, 745-760.
- 16) Nakamura, H., M. Nakamura, and J. Anderson, 1997: The role of high- and low-frequency dynamics in the blocking formation. *Monthly Weather Review*, **125**, 2074-2093.

- 17) Anderson, J., 1997: The impact of dynamical constraints on the selection of initial conditions for ensemble predictions: Low-order perfect model results. *Monthly Weather Review*, **125**, 2969-2983.
- 18) Yang, X.-Q., J. Anderson, and W. F. Stern, 1998: Reproducible forced modes in AGCM ensemble integrations and potential predictability of atmospheric seasonal variations in the extratropics. *Journal of Climate*, **11**, 2942-2959.
- 19) Anderson, J., and S. L. Anderson, 1999: A Monte Carlo implementation of the non-linear filtering problem to produce ensemble assimilations and forecasts. *Monthly Weather Review*, **127**, 2741-2758.
- 20) Vitart, F., J. Anderson, and W. F. Stern, 1999: Impact of large scale circulation on tropical storm frequency, intensity and location simulated by an ensemble of GCM integrations. *Monthly Weather Review*, **127**, 3237-3254.
- 21) Anderson, J., H. van den Dool, A. Barnston, W. Chen, W. Stern, and J. Ploshay, 1999: Capabilities of numerical and statistical methods for extratropical seasonal prediction. *Bulletin of the American Meteorological Society*, **80**, 1349-1361.
- 22) Wittenberg, A. T., and J. Anderson, 1999: Dynamical implications of forcing a model with a prescribed boundary. *Nonlinear Processes in Geophysics*, **5**, 167-180.
- 23) Shukla, J., J. Anderson, D. Baumhefner, C. Brankovic, Y. Chang, E. Kalnay, L. Marx, T. Palmer, D. Paolino, J. Ploshay, S. Schubert, D. Strauss, M. Suarez, and J. Tribbia, 2000: Dynamical seasonal prediction. *Bulletin of the American Meteorological Society*, **81**, 2593-2606.
- 24) Anderson, J., and J. J. Ploshay, 2000: Impact of initial conditions on seasonal simulations with an atmospheric general circulation model. *Quarterly Journal of the Royal Meteorological Society*, **126**, 2241-2264.
- 25) Yang, X.-Q., and J. Anderson, 2000: Correction of systematic errors in coupled GCM forecasts. *Journal of Climate*, **13**, 2072-2085.
- 26) Vitart, F., and J. Anderson, 2001: Sensitivity of Atlantic tropical storm frequency to ENSO and interdecadal variability of SSTs in an ensemble of GCM integrations. *Journal of Climate*, **14**, 533-545.
- 27) Anderson, J., 2001: An ensemble adjustment Kalman filter for data assimilation. *Monthly Weather Review*, **129**, 2884-2903.
- 28) Stensrud, D. J., and J. Anderson, 2001: Is midlatitude convection an active or a passive player in producing global circulation patterns? *Journal of Climate*, **14**, 2222-2237.
- 29) Vitart, F., J. Anderson, J. Sirutis, and R. E. Tuleya, 2001: Sensitivity of tropical storms simulated by an AGCM to changes in cumulus parameterization. *Quarterly Journal of the Royal Meteorological Society*, **127**, 25-51.
- 30) Ploshay, J. J., and J. Anderson, 2002: Large sensitivity to initial conditions in seasonal predictions with a coupled ocean-atmosphere general circulation model. *Geophysical Research Letters*, **29(8)**, doi:10.1029/2000 GL012710.
- 31) Dickinson, R. E., S. E. Zebiak, J. Anderson, M. L. Blackmon, C. Deluca, T. F. Hogan, M. Iredell, M. Ji, R. B. Rood, M. J. Suarez, and K. Taylor, 2002: Need for infrastructure and commonality in climate and weather prediction codes and data. *Bulletin of the American Meteorological Society*, **83**, 431-434.
- 32) Anderson, J., 2003: A local least squares framework for ensemble filtering. *Monthly Weather Review*, **131**, 634-642.
- 33) Zhang, S., and J. Anderson, 2003: Impact of spatially and temporally varying estimates of error covariance on assimilation in a simple atmospheric model. *Tellus*, **55A**, 126-147.

- 34) Tippett, M. K., J. Anderson, C. H. Bishop, T. M. Hamill, and J. S. Whitaker, 2003: Ensemble square root filters. *Monthly Weather Review*, **131**, 1485-1490.
- 35) Zhang, S., J. Anderson, A. Rosati, M. Harrison, S. P. Khare, and A. Wittenberg, 2004: Multiple time level adjustment for data assimilation. *Tellus A*, **56A(1)**, 2-15.
- 36) Zhang, S., M. J. Harrison, A. T. Wittenberg, A. Rosati, J. Anderson, and V. Balaji, 2005: Initialization of an ENSO forecast system using a parallelized ensemble filter. *Monthly Weather Review*, **133**, 2876-2893.
- 37) Anderson, J., B. Wyman, S. Zhang, and T. Hoar, 2005: Assimilation of surface pressure observations using an ensemble filter in an idealized global atmospheric prediction system. *Journal of the Atmospheric Sciences*, **62**, 2925-2938.
- 38) Balaji, V., J. Anderson, I. Held, M. Winton, J. Durachta, S. Malyshev, R. Stouffer, 2005: The exchange grid: A mechanism for data exchange between Earth System components on independent grids. *Parallel Computational Fluid Dynamics 2005: Theory and Applications*, A. Deane, G. Brenner, A. Ecer, D. Emerson, J. McDonough, J. Periaux, N. Satofoco, and D. Tromeur-Dervout, Eds., Elsevier, 231-239.
- 39) Anderson, J., V. Balaji, A. J. Broccoli, W. F. Cooke, T. L. Delworth, K. W. Dixon, L. J. Donner, K. A. Dunne, S. M. Freidenreich, S. T. Garner, R. G. Gudgel, C. T. Gordon, I. M. Held, R. S. Hemler, L. W. Horowitz, S. A. Klein, T. R. Knutson, P. J. Kushner, A. R. Langenhorst, N.-C. Lau, Z. Liang, S. L. Malyshev, P. C. D. Milly, M. J. Nath, J. J. Ploshay, V. Ramaswamy, M. D. Schwarzkopf, E. Shevliakova, J. J. Sirutis, B. J. Soden, W. F. Stern, L. A. Thompson, R. John Wilson, A. T. Wittenberg, and B. L. Wyman, 2005: The new GFDL global atmosphere and land model AM2/LM2: Evaluation with prescribed SST simulations. *Journal of Climate*, **17**, 4641-4673.
- 40) Khare, S. P., and J. Anderson, 2006: An examination of ensemble filter based adaptive observation methodologies. *Tellus A*, **58**, 179-195.
- 41) Hacker, J. P., J. Anderson, and M. Pagowski, 2006: Improved vertical covariance estimates for ensemble filter assimilation of near-surface observations. To appear in *Monthly Weather Review*.
- 42) Liu, H., J. Anderson, Y.-H. Kuo, and K. Raeder, 2006: Assimilation of GPS RO data with an ensemble filter: Importance of forecast error correlations. To appear in *Monthly Weather Review*.
- 43) Anderson, J., and N. Collins, 2007: Scalable implementations of ensemble filter algorithms for data assimilation. To appear in *Journal of Atmospheric and Oceanography Technology A*.
- 44) Anderson, J., 2007: An adaptive covariance inflation error correction algorithm for ensemble filters. To appear in *Tellus A*.
- 45) Anderson, J., 2007: Exploring the need for localization in ensemble data assimilation using an hierarchical ensemble filter. To appear in *Physica D*.
- 46) Karspeck, A., and J. Anderson, 2007: Experimental implementation of an ensemble adjustment filter for an intermediate ENSO model. To appear in *Journal of Climate*.

Manuscripts in preparation:

- 47) Khare, S. P., J. Anderson, T. J. Hoar, and D. Nychka, 2007: An investigation into the application of an ensemble Kalman smoother to high-dimensional geophysical systems. Submitted to *Tellus A*.
- 48) Liu, H., J. Anderson, Y.-H. Kuo, C. Snyder, and A. Caya, 2007: Exploring the application of radio occultation measurements in improving analyses in traditionally data sparse regions with the WRF/DART ensemble data assimilation system. Submitted to *Monthly Weather Review*.

- 49) Matsuo, T., H. Liu, J. Anderson, D. Marsh, and A. K. Smith, 2007: On model error growth in applications of ensemble Kalman filtering to the mesosphere and lower thermosphere region. Submitted to *Journal of Geophysical Research - Atmospheres*.
- 50) Anderson, J., and X. Wang, 2007: Posterior adaptive covariance inflation for ensemble filters. In preparation.
- 51) Anderson, J., 2007: Spatially-varying adaptive covariance inflation for an ensemble filter. Submitted to *Tellus A*.
- 52) Anderson, J., K. Raeder, T. Hoar, and N. Collins, 2007: An ensemble filter assimilation system for the Community Atmospheric Model. In preparation.
- 53) Arellano, A. F., K. Raeder, J. Anderson, and P. G. Hess, 2007: Ensemble-based chemical data assimilation in a global atmospheric model. In preparation.
- 54) Anderson, J., 2007: Ensemble Kalman filters for very large geophysical applications. In preparation for *IEEE Control Systems* special issue on 50th Anniversary of Kalman Filter.
- 55) Snyder, C., T. Bengtsson, P. Bickel, and J. Anderson, 2007: Obstacles to high-dimensional particle filtering. In preparation.

Internally refereed publications:

- 56) Spry, A. J., and J. Anderson, 1981: An enhanced plotter for surface airways observations. National Oceanic and Atmospheric Administration Technical Memorandum, NWS-WRTM 170.
- 57) Anderson, J., 1982: 850 millibar charts derived from surface data. National Oceanic and Atmospheric Administration Computer Programs and Problems. NWS-WRCP 39.
- 58) Anderson, J., 1983: Mesoscale objective analysis. National Oceanic and Atmospheric Administration Computer Programs and Problems, NWS-WRCP 33.
- 59) Anderson, J., 1984: The use and interpretation of isentropic analysis. National Weather Service Technical Memorandum, NWS-WRTM 188.
- 60) Anderson, J., 1984: Isentropic objective analysis. National Oceanic and Atmospheric Administration Computer Programs and Problems, NWS-WRCP 47.
- 61) Mathewson, M. A., and J. Anderson, 1985: AOS graphic to grid point conversion and departure from normal programs. National Oceanic and Atmospheric Administration Computer Programs and Problems, NWS-WRCP 50.
- 62) Anderson, J., and many, 2003: The flexible modeling system public documentation. <http://www.gfdl.noaa.gov/~fms/>.
- 63) Anderson, J., T. Hoar, K. Raeder, H. Liu, and N. Collins, 2006: The Data Assimilation Research Testbed on-line documentation and tutorial. <http://www.image.ucar.edu/DARes/DART>.

Non-refereed publications:

- 64) Anderson, J., 1991: Nearly Stationary States of the Barotropic Vorticity Equation. *Proceedings of the Ninth Conference on Numerical Weather Prediction*.
- 65) Anderson, J., 1991: Stability of Forced and Unforced Rossby Waves on the Infinite Beta-Plane. *Proceedings of the Eighth Conference on Atmospheric Waves and Stability*.

- 66) Anderson, J., 1992: Return of Skill in Extended Range Forecasts. *Proceeding of the 17th Annual Climate Diagnostics Workshop.*
- 67) Anderson, J., 1993: Ensemble Forecasting and Non-Linear Dynamics. *Proceedings of the 18th Annual Climate Diagnostics Workshop.*
- 68) Anderson, J., 1993: Ensemble Forecasting in a Simple Forced Barotropic Model. *Proceedings of the Workshop on Numerical Extended Range Weather Prediction.*
- 69) Anderson, J., 1994: Modon-like Stationary States of the Barotropic Vorticity Equation and Atmospheric Blocking. *Proceedings of the Ninth Conference on Atmospheric and Oceanic Waves and Stability.*
- 70) Anderson, J., and W. F. Stern, 1994: A Method of Evaluating the Predictive Ability of Ensemble Forecasts. *Proceedings of the 19th Annual Climate Diagnostics Workshop.*
- 71) Anderson, J., 1995: Verification of Seasonal Forecasts from Ensemble GCM Integrations. *Proceedings of the 20th Annual Climate Diagnostics Workshop.*
- 72) Vitart, F. P., J. Anderson, and W. Stern, 1995: Potential Predictability of Tropical Storms in an Ensemble of Forecasts. *Proceedings of the 20th Annual Climate Diagnostics Workshop.*
- 73) Anderson, J., and R. Gudgel, 1996: Impact of Atmospheric Initial Conditions on Seasonal Predictions with a Coupled Ocean- Atmosphere Model. *Proceedings of the 21st Climate Diagnostics and Prediction Workshop.*
- 74) Anderson, J., A. Rosati, and R. Gudgel, 1996: Potential Predictability in an Ensemble of Coupled Atmosphere-Ocean General Circulation Model Seasonal Forecasts. *Proceedings of the 21st Climate Diagnostics and Prediction Workshop.*
- 75) Harrison, M. J., A. Rosati, R. Gudgel, and J. Anderson, 1996: Initialization of Coupled Model Forecasts Using an Improved Ocean Data Assimilation System. *Proceedings of the 11th Conference on Numerical Weather Prediction.*
- 76) Stern, W. F., and J. Anderson, 1996: Interannual Variability of Tropical Interseasonal Oscillations in the GFDL/DERF GCM Inferred from an Ensemble of AMIP Integrations. *Proceedings of the 11th Conference on Numerical Weather Prediction.*
- 77) Anderson, J., 1996: Impacts of Dynamically Constrained Initial Conditions on Ensemble Forecasts. *Proceedings of the 11th Conference on Numerical Weather Prediction.*
- 78) Anderson, J., 1997: Use of Ensembles for Dynamical Extended Range Forecasting (or Anything Else). *Proceedings of the WMO Workshop on DERF.*
- 79) Anderson, J., H. van den Dool, A. Barnston, W. Chen, W. Stern, and J. Ploshay, 1997: Current Capabilities of Dynamical and Statistical Methods for Atmospheric Extratropical Seasonal Prediction. *Proceedings of the 22nd Climate Diagnostics and Prediction Workshop.*
- 80) Anderson, J., R. Gudgel, and J. Ploshay, 1997: Seasonal-Interannual Predictions from an Ensemble of Fully-Coupled Ocean- Atmosphere GCM Integrations. *Proceedings of the 22nd Climate Diagnostics and Prediction Workshop.*
- 81) F. Vitart, J. Anderson and W. F. Stern, 1997: Evaluation of the Skill of an Ensemble of GCM Integrations in Simulating Seasonal Tropical Storm Frequency, Intensity and Location. *Proceedings of the 22nd Climate Diagnostics and Prediction Workshop.*

- 82) Anderson, J., W. F. Stern and F. Vitart, 1997: Simulation of Interannual Variability of Tropical Storm Frequency in an Ensemble of GCM Integrations. *Proceedings of the 22nd Conference on Hurricanes and Tropical Meteorology*.
- 83) Vitart, F., J. Anderson and W. F. Stern, 1997: Impact of Large Scale Circulation on Tropical Storm Frequency Simulated in an Ensemble of GCM Integrations. *Proceedings of the 22nd Conference on Hurricanes and Tropical Meteorology*.
- 84) Anderson, J., W. F. Stern, J. Ploshay and R. Gudgel, 1998: Results from coupled model ensemble prediction experiments. *Proceedings of the 23rd Climate Diagnostics and Prediction Workshop*.
- 85) Anderson, J., 1998: Application of a Fully Non-Linear Filter and Monte Carlo Techniques to Atmospheric Data Assimilation. *Proceedings of the 14th Conference on Probability and Statistics in the Atmos. Sci.*
- 86) Anderson, J., R. Gudgel and W. F. Stern, 1998: Predictability and Potential Predictability in an Ensemble of Fully-Coupled Ocean-Atmosphere GCM Integrations. *Proceedings of the 9th Conference on Interaction of the Sea and Atmosphere*.
- 87) Anderson, J. and J. J. Ploshay, 1999: Impact of local surface initial conditions on seasonal land GCM predictions. *Proceedings of 24th Climate Diagnostics and Prediction Workshop*.
- 88) Anderson, J., 1999: Why are statistical models for seasonal prediction competitive with current generation GCMs? *Proceedings of 24th Climate Diagnostics and Prediction Workshop*.
- 89) Anderson, J., C. Gordon, R. Gudgel, M. Harrison, J. Ploshay, A. Rosati, J. Sirutis, R. Smith and W. Stern, 1999: Potential predictability of seasonal predictions from fully coupled GCMs. *Proceedings of 13th Conference on Numerical Weather Prediction*.
- 90) Anderson, J., 1999: A Monte Carlo implementation of the non-linear filtering problem to produce ensemble assimilations and forecasts. *Proceedings of Joint Statistical Meeting of the American Statistical Association*.
- 91) Anderson, J., 1999: Seasonal prediction with comprehensive models of ocean and atmosphere and a comparison to statistical forecasts. *Proceedings of Risk Prevention Institute Workshop on How Reliable are Seasonal Predictions of Temperature and Precipitation*.
- 92) Ploshay, J. J. and J. Anderson, 2000: Large Sensitivity to Initial Conditions in Seasonal Predictions with a Coupled Ocean- Atmosphere General Circulation Model. *Proceedings of the 25th Climate Diagnostics and Prediction Workshop*.
- 93) Anderson, J. and S. Zhang, 2002: Capabilities of Ensemble Filters for Data Assimilation. *Proceedings of Symposium on Observations, Data Assimilation and Predictability*.
- 94) Anderson, J., 2002: A Local Least Squares Framework for Ensemble Filter Data Assimilation. *Proceedings of 16th Conference on Probability and Statistics in the Atmospheric Sciences*.