

JAMIE SCOTT

NOAA/CIRES/EARTH SYSTEM RESEARCH LABORATORY/PHYSICAL SCIENCES DIV
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EDUCATION

MS, Atmospheric Sciences, *Colorado State University*, 1994. GPA 3.9/4.0. Advisor: Steven A. Rutledge
Thesis title: Doppler Radar Observations of an Asymmetric MCS and Associated Vortex Couplet.
BS, Meteorology, *University of Wisconsin-Madison*, 1991. GPA 3.6/4.0. Graduated with distinction.

EXPERIENCE

- Senior Associate Scientist, *CIRES, NOAA/ESRL Physical Sciences Division* (6/11 to present)
- Associate Scientist III, *CIRES, NOAA/ESRL Physical Sciences Division* (3/99 - 6/11)
- Associate Scientist II, *CIRES, NOAA/ESRL Physical Sciences Division* (10/94 - 3/99)
- Research Assistant, *Colorado State University* (8/92-10/94)
- Forecaster, *Weather Central, Inc.* (8/91-8/92)
- Upper Air Operator: Lake Michigan Ozone Study, *Sonoma Technology, Inc.* (6/91-8/91)

CURRENT RESPONSIBILITIES

- Independently creates/acquires and manages observed and model datasets for climate analysis
- Responsible for developing and maintaining code for production, quality control, and analysis of climate data
- Proficient in managing, modifying, and executing complex codes such as Atmospheric General Circulation Models
- Comfortable working on multiple computer platforms/operating systems
- Uses a diverse and current tool set for data production, management and analysis
- Demonstrates expertise in programming languages such as FORTRAN, NCAR command language, Python, Perl, Bourne shell and c-shell and data formats such as netCDF and grib
- Shows ability to learn new software with minimal training
- Supports production of peer-reviewed publications with minimal supervision from data production/acquisition/analysis to desktop publishing
- Designs, produces and maintains websites for broad distribution of climate information using HTML, Python, NCL, and CSS
- Handles data requests from CIRES, NOAA and external scientists

RESEARCH INTERESTS

- Ocean-Atmosphere Interaction
- Inter-annual Climate Variability
- Climate Extremes
- Numerical Modeling
- Ensemble Forecasting
- Short-term Atmospheric Variability
- Remote Sensing

PROGRAMMING SKILLS

- Fortran 77/90 IMSL/NAG/LaPack
- Python/Perl/tcsh/sh
- GrADS/NCL
- UNIX/Solaris/MacOSX/Windows

GRAPHICS/VISUALIZATION

- GrADS/NCL
- Imagemagic/Ghostscript
- MS Word/Powerpoint/Excel
- Adobe Illustrator/Photoshop/Acrobat
- [html/cgi/css/javascript](#)

DATA FORMATS

- Grib
- netCDF/HDF
- binary (big Endian, little Endian, sequential or direct access)

REFEREED PUBLICATIONS

- Alexander, M. A., S. Shin, J. D. Scott, E. Curchitser, and C. Stock, (2020): The Response of the Northwest Atlantic Ocean to Climate Change. *J. Climate*, **33**, 405–428, <https://doi.org/10.1175/JCLI-D-19-0117.1>
- Allyn, A.J., M.A. Alexander, B.S. Franklin, F. Massiot-Granier, A.J. Pershing, J.D. Scott, K.E. Mills (2020), Comparing and synthesizing quantitative distribution models and qualitative vulnerability assessments to project marine species distributions under climate change. *PLOS ONE*. <https://doi.org/10.1371/journal.pone.0231595>
- Jacox, M.G., M.A. Alexander, S.J. Bograd, J.D. Scott, (2020), Thermal displacement by marine heatwaves. *Nature* **584**, 82–86. <https://doi.org/10.1038/s41586-020-2534-z>
- Pershing, A.J., N.R. Record, B.S. Franklin, B.T. Kennedy, L. McClenachan, K.E. Mills, J.D. Scott, A.C. Thomas, and N.H. Wolff (2019): Challenges to natural and human communities from surprising ocean temperatures. *PNAS*, **116** (37), 18378-18383. <https://doi.org/10.1073/pnas.1901084116>
- Alexander, M.A., J.D. Scott, K.D. Friedland, K.E. Mills, J.A. Nye, A.J. Pershing, A. C. Thomas, (2018): Projected sea surface temperatures over the 21st century: Changes in the mean, variability and extremes for large marine ecosystem regions of Northern Oceans. *Elem Sci Anth*, **6** (1), p.9. DOI:<http://doi.org/10.1525/elementa.191>
- Jacox, M. G., M.A. Alexander, N.J. Mantua, J.D. Scott, G. Hervieux, R. S. Webb, and F.E. Werner, 2018: Forcing of Multiyear Extreme Ocean Temperatures that Impacted California Current Living Marine Resources in 2016. *Bull. Amer. Meteor. Soc.*, **99**, S27–S33, <https://doi.org/10.1175/BAMS-D-17-0119.1>
- Le Bris, A., K.E. Mills, R.A. Wahle, Y. Chen, M.A. Alexander, A.J. Allyn, J.G. Schuetz, J.D. Scott, and A.J. Pershing, (2018): Climate vulnerability and resilience in the most valuable North American fishery. *PNAS*, **115**(8), 1831-1836. <https://doi.org/10.1073/pnas.1711122115>
- Turi, G., M.A. Alexander, N.S. Lovenduski, A. Capotondi, J.D. Scott, C. Stock, J. Dunne, J. John, and M.G. Jacox, (2018): Response of O₂ and pH to ENSO in the California Current System in a high-resolution global climate model. *Ocean Sci.* (**14**), <https://doi.org/10.5194/os-14-69-2018>
- Hare, J.A., W. E. Morrison, M.W. Nelson, M.M. Stachura, E.J. Teeters, R.B. Griffis, M.A. Alexander, J.D. Scott, L. Alade, R.J. Bell, A.S. Chute, K.L. Curti, T.H. Curtis, D.Kircheis, J.F. Kocik, S.M. Lucey, C.T. McCandless, L.M. Milke, D.E. Richardson, E. Robillard, H.J. Walsh, M.C. McManus, K.E. Marancik, C.A. Griswold (2016): A Vulnerability Assessment of Fish and Invertebrates to Climate Change on the Northeast U.S. Continental Shelf. *PLOS ONE*, **11**(2) <https://doi.org/10.1371/journal.pone.0146756>
- Newman, M., M.A. Alexander, T.R. Ault, K.M. Cobb, C. Deser, E. DiLorenzo, N.J. Mantua, A.J. Miller, S. Minobe, H. Nakamura, N. Schneider, D.J. Vimont, A.S. Phillips, J.D. Scott, C.A. Smith, (2016): The Pacific Decadal Oscillation, Revisited. *J. Climate*, **29**, 4399–4427, <https://doi.org/10.1175/JCLI-D-15-0508.1>
- Scott, J. D., M. A. Alexander, D. R. Murray, D. Swales, and J. Eischeid, (2016): The Climate Change Web Portal: A System to Access and Display Climate and Earth System Model Output from the CMIP5 Archive. *Bull. Amer. Meteor. Soc.*, **97**, 523–530, <https://doi.org/10.1175/BAMS-D-15-00035.1>
- Pershing, A.J., M.A. Alexander, C.M. Hernandez, L.A. Kerr, A. LeBris, K.E. Mills, J.A. Nye, N.R. Record, H.A. Scannell, J.D. Scott, G.D. Sherwood, A. C. Thomas, (2015): Slow adaptation in the face of rapid warming leads to collapse of the Gulf of Maine cod fishery. *Science*, **350** (6262) 809-812 DOI: 10.1126/science.aac9819
- Alexander M.A., J.D. Scott, D. Swales, M. Hughes, K. Mahoney, C.A. Smith (2014): Moisture Pathways into the US Intermountain West Associated with Heavy Winter Precipitation Events. *Journal of Hydrometeorology*, doi: [doi:10.1175/JHM-D-14-0139.1](https://doi.org/10.1175/JHM-D-14-0139.1)

- Lynch, P.D., J.A. Nye, J.A. Hare, C.A. Stock, M.A. Alexander, J.D. Scott, K.L. Curti, and K. Drew (2014): Projected ocean warming creates a conservation challenge for river herring populations. *ICES Journal of Marine Science*, doi: doi:10.1093/icesjms/fsu134
- Alexander, M.A., J.D. Scott, K. Mahoney, J. Barsugli, (2013): Greenhouse Gas-Induced Changes in Summer Precipitation over Colorado in NARCCAP Regional Climate Models. *J. Climate*, **26**, 8690-8697. doi: <http://dx.doi.org/10.1175/JCLI-D-13-00088.1>
- Mahoney, Kelly, Michael Alexander, James D. Scott, Joseph Barsugli, (2013): High-Resolution Downscaled Simulations of Warm-Season Extreme Precipitation Events in the Colorado Front Range under Past and Future Climates. *J. Climate*, **26**, 8671-8689. doi: <http://dx.doi.org/10.1175/JCLI-D-12-00744.1>
- Alexander, M.A., H. Seo, S.-P. Xie, and J.D. Scott, 2012: ENSO's Impact on the Gap Wind Regions of the Eastern Tropical Pacific Ocean *J. Climate*, **25**, 3549-3565.
- Capotondi, A., M. Alexander, N. Bond, E. Churchitser, and J. Scott, (2012): Enhanced Upper-Ocean Stratification with Climate Change in the CMIP3 Models. *J. Geophys. Res. - Oceans*, **117**, C04031, doi:10.1029/2011JC007409.
- Mahoney, K., M.A. Alexander, G. Thompson, J.J. Barsugli, J.D. Scott, (2012): Changes in hail and flood risk in high-resolution simulations over the Colorado Mountains. *Nature Climate Change*, **2**, doi:10.1038/nclimate1344.
- Deser, C., A.S. Phillips, R.A. Tomas, Y. Okumura, M.A. Alexander, A. Capotondi, J.D. Scott, Y.-O. Kwon, and M. Ohba, (2012): ENSO and Pacific Decadal Variability in Community Climate System Model Version 4. *J. Climate*, **25**, 2622-2651, 10.1175/JCLI-D-11-00301.1
- Newman, M., M. A. Alexander and J. D. Scott, (2011): An empirical model of tropical ocean dynamics. *Climate Dyn.*, doi: 10.1007/s00382-011-1034-0.
- Alexander, M.A., (2010): Extratropical Air-Sea Interaction, SST Variability and the Pacific Decadal Oscillation (PDO). *Climate Dynamics: Why does Climate Vary*, Editors D. Sun and F. Bryan, AGU Monograph, pp. 123-148.
- Alexander, M.A., D.J. Vimont, P. Chang, and J.D. Scott, (2010): The Impact of Extratropical Atmospheric Variability on ENSO: Testing the Seasonal Footprinting Mechanism using Coupled Model Experiments. *J. Climate*, **23**, 2885-2901.
- Hare, J., M. Alexander, M. Fogarty, E. Williams, J.D. Scott, (2010): Forecasting the dynamics of a coastal fishery species using a coupled climate population model. *Ecological Applications*, **20**(2), 452-464.
- Alexander, M.A. and J.D. Scott, 2008: The role of Ekman ocean heat transport in the Northern Hemisphere Response to ENSO. *J. Climate*, **21**, 5688-5707.
- Bladé, I., M. Newman, M.A. Alexander, J.D. Scott, 2008: The late fall extratropical response to ENSO: sensitivity to coupling and convection in the tropical west Pacific. *J. Climate*, **21**, 6101-6118.
- Bhatt, U.S., M.A. Alexander, C. Deser, J.E. Walsh, J.S. Miller, M. Timlin, J.D. Scott, and R. Tomas, 2008: The Atmospheric Response to Realistic Reduced Summer Arctic Sea Ice Anomalies. In *Arctic Sea Ice Decline: Observations, Projections, Mechanisms, and Implications*, Geophys. Monogr. Ser., vol. 180, eds. E. Deweaver and C. Bitz., and L.-B. Tremblay, pp. 91-110, AGU, Washington, D. C.
- Alexander, M.A., L. Matrosova, C. Penland, J.D. Scott, and P. Chang, 2008: Forecasting Pacific SSTs: Linear Inverse Model Predictions of the PDO. *J. Climate*, **21**, 385-402.
- Alexander, M., J. Yin, G. Branstator, A. Capotondi, C. Cassou, R. Cullather, Y.-O. Kwon, J. Norris, J. Scott, I. Wainer, 2006. Extratropical Atmosphere-Ocean Variability in CCSM3. *J. Climate*, **19**, 2496-2525. Special Issue (June 1, #11) on the CCSM3.
- Alexander, M.A., N.-C. Lau, and J.D. Scott, 2004: Broadening the atmospheric bridge paradigm: ENSO teleconnections to the North Pacific in summer and to the tropical west Pacific-Indian Oceans over the seasonal cycle. *Earth Climate: The Ocean-Atmosphere Interaction*, eds. C. Wang, S.-P. Xie and J. Carton. AGU Monograph. pp. 85-104.
- Alexander, M.A., U.S. Bhatt, J.E. Walsh, M.S. Timlin, J.S. Miller and J.D. Scott, 2004: The atmospheric response to realistic Arctic sea ice anomalies in an AGCM during Winter. *J. Climate*, **17**, 890-905.
- Alexander, M.A. and J.D. Scott, 2002: The influence of ENSO on air-sea interaction in the Atlantic. *Geophys. Res. Lett.*, **29** (14), 10.1029/2001GL014347.
- Alexander, M.A., I. Blade, M. Newman, J.R. Lanzante, N.-C. Lau, and J.D. Scott, 2002: The Atmospheric Bridge: the Influence of ENSO Teleconnections on Air-Sea Interaction Over the Global Oceans. *J. Climate*, **15**, 2205-2231.
- Alexander, M.A., M.S. Timlin, and J.D. Scott, 2001: Winter-to-Winter recurrence of sea surface temperature, salinity and mixed layer depth anomalies. *Progress in Oceanography*, **49**, 41-61.
- Alexander, M.A., J.D. Scott, and C. Deser, 2000: Processes that influence sea surface temperature and ocean mixed layer depth variability in a coupled model. *J. Geophys. Res. - Oceans*, **105**, 16, 823-842.
- Newman, M., M.A. Alexander, C.R. Winkler, J.D. Scott, and J.J. Barsugli, 2000: A linear diagnosis of the

- coupled extratropical Ocean-Atmosphere system in the GFDL GCM. *Atmospheric Sciences Letters*, **1**.
- Scott, J. D. and M. A. Alexander, 1999: Net shortwave fluxes over the ocean. *J. Phys. Oceanogr.*, **29**, 3167-3174.
- Alexander, M.A., and J.D. Scott, 1997: Surface Flux Variability over the North Pacific and North Atlantic Oceans. *J. Climate*, **10**, 2963-2978.
- Scott, J.D., M.A. Alexander, J.A. Collins, and C.A. Smith, 1997. Interactive Visualization of Climate Data on the WWW. *Bull. Amer. Meteor. Soc.*, **78**, 1985-1989.
- Scott, J.D., and S.A. Rutledge, 1995: Doppler Radar Observations of an Asymmetric Mesoscale Convective System and Associated Vortex Couplet. *Mon. Wea. Rev.*, **123**, 3437-3457.

OTHER PUBLICATIONS

- Alexander, M.A. and J.D. Scott, 1995: Atlas of Climatology and Variability in the GFDL R30S14 GCM. U.S. Government Printing Office: 1996-774-842.