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Curriculum Vitae

Ariel Cohen
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Education & Professional Positions Held

2016- **Adjunct Assistant Professor, University of Oklahoma School of Meteorology**

2015- **Instructor, University of Oklahoma School of Meteorology**

2011- **Mesoscale Assistant/Fire Weather Forecaster, Storm Prediction Center, Norman, Oklahoma**

2011-15 **Ph.D., University of Oklahoma**, School of Meteorology (GPA: 4.0 out of 4.0)
Dissertation: "Southeast U.S. cold season severe thunderstorm environments and their depictions using multiple planetary boundary layer parameterization schemes"
Committee: Drs. Steven Cavallo (Chair), Harold Brooks (Co-Chair), Frederick Carr, Kevin Kloesel, and Scott Greene

2013-15 **National Weather Association Publications Committee Member**

2010 **Instructor, University of Louisiana at Monroe**

2009-11 **General Forecaster, National Weather Service, Jackson, Mississippi**

2008-09 **Intern Forecaster, National Hurricane Center, Miami, Florida**

2007-08 **General Forecaster, National Weather Service Great Falls, Montana**

2006-08 **M.S., University of Oklahoma,** School of Meteorology (GPA: 4.0 out of 4.0)
Thesis: "Flash rate, electrical, microphysical, and kinematic relationships across a simulated storm spectrum"
Committee: Drs. Edward Mansell, Donald MacGorman, Alan Shapiro, William Beasley, Michael Coniglio, and Michael Biggerstaff

2006 **Instructor, The Ohio State University**

2003-06 **B.S.,** *Summa Cum Laude,* **The Ohio State University** (GPA: 4.0 out of 4.0)
Major: Atmospheric Sciences
Senior Honors Thesis: "Severity-Based Discrimination Among Mesoscale Convective System Environments from Radiosonde Analysis"
Advisors: Drs. Jay Hobgood and Jeff Rogers

Detailed Work Experience

NOAA/NWS/NCEP/SPC/Operations Branch – Leadership in Research-to-Operations, NWS Collaboration, and Education Initiatives
120 David L. Boren Blvd.
Norman, OK 73072 United States

01/2011 - Present
Hours per week: 40
Series: 1340 **Pay Plan:** GS **Grade:** 12 ***(Temporary promotion at GS-13 during part of 2014, 2016, and 2017.)***
Mesoscale Assistant/Fire Weather Forecaster
Duties, Accomplishments and Related Skills:
*Created and served as primary instructor for the University of Oklahoma graduate-level course entitled "Applications of Meteorological Theory to Severe-Thunderstorm Forecasting" (spring semesters of 2015, 2016, and 2017; course website: http://weather.ou.edu/~acohen/). Provided over 55 students with lectures on theoretical and practical aspects, and hands-on applications, of severe-thunderstorm forecasting. Arranged guest lectures by Storm Prediction Center, Weather Forecast Office, and National Severe Storms Laboratory staff.

*Led and performed collaborative research on operational forecast problems involving partnerships with staff at Weather Forecast Offices -- e.g., investigation of convection during the North American Monsoon across central and southern Arizona with Weather Forecast Office Tucson, AZ; south Florida flash flood events with Weather Forecast Office Miami, FL (results presented on a teleconference to NWS offices across the Florida Peninsula); central Montana tornadoes with Weather Forecast Office Great Falls, MT; high-based severe storms with Weather Forecast Office Wichita, KS.

*Collaborated and crafted manuscripts for published research with an SPC Lead Forecaster on statistical approaches to short-term forecasts of severe thunderstorms using the Statistical Severe Convective Risk Assessment Model. Presented this research at the 2015 National Weather Association Annual Meeting and for the National Weather Center Convective Meteorology seminar series in 2016.

*Led research on southeast United States cold season, low-instability, high-shear environments for doctoral research at the University of Oklahoma, with a focus on planetary boundary layer parameterization schemes in these environments. Presented research at multiple seminars and a National Weather Center colloquium.

*Successfully completed Ph.D. with dissertation research entitled "Southeast U.S. Cold Season Severe Thunderstorm Environments and Their Depictions Using Multiple Planetary Boundary Layer Parameterization Schemes".

*Represented the SPC at the VORTEX-SE planning meeting in November 2015, in which researchers, operational meteorologists, and social scientists collaboratively identified southeast-U.S. severe-weather forecast problems and prepared plans for future research of these problems.

*Provided input for two VORTEX-SE Working Groups to increase awareness of forecasting and research problems relevant for physical sciences aspects of the project. This input is intended to steer

the project in a direction most fruitful for bettering our understanding of problems surrounding southeast United States tornadoes.

*Collaborated with the Wilmington, OH Weather Forecast Office in developing and leading a new forecasting workshop in Autumn Semester 2015 for students at The Ohio State University, involving hands-on and interactive severe-weather forecasting experiences between students and NWS personnel. Subsequently and independently led students Ohio State meteorology students through the forecast process and real-time applications of forecasting in Autumn Semester 2016.

*Served as a mentor to students of the NOAA Hollings program, Research Experiences for Undergraduates program, University of Oklahoma Senior Capstone program, and SPC Career Experience Program:
--Primary mentor for Daniel Cornish and Austin Dixon (2016-2017 University of Oklahoma Senior Capstone) on open warm-sector convection.
--Primary mentor for Brandon Centeno (2016 NOAA Hollings) on "Analysis of Convective Mode in Severe Thunderstorm Events across Eastern Parts of the Central and Southern Great Plains".
--Primary mentor for Matthew Campbell (2015 Research Experiences for Undergraduates) on "Examining the Relative Motion of Derecho- and Non-Derecho-Producing QLCSs with Respect to the Mean Wind".
--Primary mentor for Brooke Hagenhoff (2015 SPC Student Career Experience) on "Lower Mississippi River Valley Quasi-Linear Convective System Tornado Environments and Radar Signatures".
--Co-mentor for Dan Brown and Thea Sandmael (2014-2015 University of Oklahoma Senior Capstone) on "Sensitivity of WRF Inputs in Simulating Tropical Cyclones".
--Primary mentor for Matthew Flournoy (2014 NOAA Hollings) on "Examining the Sensitivity of Horizontal and Vertical Grid Spacing on Simulations of Cool Season Severe Thunderstorms in the Southeast United States".
--Secondary mentor for Brent Pesel (2012 SPC Student Career Experience) on "Surface Analysis of Tornadoes in Landfalling Tropical Cyclones".

*Sponsored over a dozen university students for shadow experiences on SPC shifts.

*Served as a project contributor to the SPC Violent Tornado Outbreaks webpage (UNIX scripting and video-related tasks).

*Developed a manual for basic forecast guidelines and operating procedures for new Mesoscale Assistant/Fire Weather forecasters at the SPC.

*Participated for multiple years in Hazardous Weather Testbed Spring Forecast Experiment operations involving collaborations with researchers and operational meteorologists to evaluate new methods and procedures for severe-thunderstorm forecasting, with an emphasis on output from convection-allowing model guidance and related ensembles.

*Collaborated with an atmospheric scientist at the Cooperative Institute for Research in Environmental Sciences and Chemical Sciences Division at the Earth System Research Laboratory in Boulder to host a remote presentation of his work entitled "Doppler Lidar Basics and Operational Relevance" in summer 2016. This was presented to staff from the SPC, the Norman Weather Forecast Office, and the Radar Operations Center, highlighting operationally relevant work in deriving vertical wind profiles from Doppler Lidar.

NOAA/NWS/NCEP/SPC/Operations Branch – Meteorological Outreach
120 David L. Boren Blvd.
Norman, OK 73072 United States

01/2011 - Present
Hours per week: 40
Series: 1340 **Pay Plan:** GS **Grade:** 12 ***(Temporary promotion at GS-13 during part of 2014, 2016, and 2017.)***
Mesoscale Assistant/Fire Weather Forecaster
Duties, Accomplishments and Related Skills:
*Led and collaboratively developed the March 2016 severe-thunderstorm component of the Impact-Based Decision Support Services (IDSS) session for the national IDSS webinar series. This involved organization of a program highlighting severe-thunderstorm-related IDSS initiatives in the NWS, including interactive discussion among NWS panelists with an audience consisting of many offices throughout the NWS.

*Collaboratively worked with the Public Affairs Specialist for the Norman National Oceanic and Atmospheric Administration Partners on a project highlighting Storm Prediction Center staff members on the SPC website via staff-profile pages (staff profiles webpage: http://www.spc.noaa.gov/staff/profiles/), and on the preparation of *NWS Insider* articles highlighting research and mentorship experiences at the SPC.

*Provided a weather briefing and question-and-answer session for members of the Society of Environmental Journalists in October 2015.

*Routinely performed media – including national media – interviews regarding severe weather events through TV, radio, print, and the web.

*Served as the focus for two television documentaries in Columbus, Ohio markets (ABC and NBC affiliates), illustrating the SPC career and related roots in central Ohio. Collaborated with a fellow SPC forecaster and the ABC/FOX Dayton, Ohio affiliate in a series documenting severe-storm forecasting and research and Ohio connections.

*Participated in the 2015 NWS Southern-Region Building Leaders for a Solid Tomorrow (BLAST) program. Performed rigorous exercises in leadership development and improving self-awareness in support of bettering coworker relationships and teamwork.

*Presented on fire-weather forecasting for an online educational video accessible from the top of the fire-weather component of the SPC website: http://www.spc.noaa.gov/products/fire_wx/overview.html.

*Invited speaker at multiple outreach functions: invited speaker at the 2012 and 2014 Severe Weather Symposia at The Ohio State University, 2012 Meteorological Symposium at Ohio University, 2014 University of Nebraska (Lincoln) Central Plains Severe Weather Symposium and Family Weatherfest, 2016 annual American Meteorological Society student conference, and 2016 Douglas County, Kansas Severe Weather Symposium. Presentation titles include "A Day in the Life of a Storm Prediction Center Forecaster", "Indices of Violent Tornado Environments", "The Moore and El Reno Oklahoma Disasters", and "Forecasting Fire Weather in the United States".

*Provided tours of the SPC area for National Weather Festivals, University of Oklahoma Visiting Student Weekend prospective graduate students, and other NWS personnel, providing opportunities to bridge academia and research meteorology with operations and facilitate stronger relationships with core partners in the NWS.

*Served as a member of the SPC Social Media team. Created social media posts that detail expected severe-storm and fire-weather hazards, and other SPC personnel-related highlights.

*Led multiple weather briefings for the University of Oklahoma Weather Briefing course, and presented on severe-weather forecasting and meteorological analysis to multiple introductory undergraduate meteorology classes at the University of Oklahoma.

*Presented to high school students in Worthington, Ohio via Skype on meteorology and careers as a part of a forum encouraging students to pursue career aspirations and informing students about career opportunities and tracks from alumni.

*Prepared multiple articles for editions of the SPC newsletter, *The Convective Watcher*.

NOAA/NWS/NCEP/SPC/Operations Branch – Operational and Verification Activities
120 David L. Boren Blvd.
Norman, OK 73072 United States

01/2011 - Present
Hours per week: 40
Series: 1340 **Pay Plan:** GS **Grade:** 12 ***(Temporary promotion at GS-13 during part of 2014, 2016, and 2017.)***
Mesoscale Assistant/Fire Weather Forecaster
Duties, Accomplishments and Related Skills:
*Prepared General Thunderstorm, Enhanced Thunderstorm, Convective Outlooks, Mesoscale Convective Discussions, and Fire Weather Outlooks involving collaboration with Weather Forecast Offices and Geographic Area Coordination Centers.

*Prepared and presented Storm Prediction Center web briefings for severe weather events (example from April 27, 2011: http://www.spc.noaa.gov/products/outlook/archive/2011/pwo_201104271035.mp4). These briefings were highly visible presentations on upcoming and ongoing severe weather potential, describing the anticipated hazards and related meteorology for the areas affected as briefing material.

*Developed tools and graphical displays for forecast verification of Convective Outlooks with an SPC Lead Forecaster and WCM, providing quantitative, statistical evaluations of Days 1 through 8 outlooks and comparisons with practically perfect outlooks.

NOAA/National Weather Service Jackson, Mississippi
234 Weather Service Dr.
Flowood, MS 39232 United States

08/2009 - 01/2011
Hours per week: 40
Series: 1340 **Pay Plan:** GS **Grade:** 12
General Forecaster
Duties, Accomplishments and Related Skills:
*Served as Digital Services Meteorologist and Interactive Forecast Preparation System Focal Point. Developed new techniques and tools for forecasting using the Graphical Forecast Editor (GFE). Managed office's GFE configuration, including updating and maintaining the existing system. Trained staff on new forecast tools.

*Worked with the WCM and focal points to meet customer needs by creating GFE tools and formatters to enhance forecast operations for NWS partners. Developed the Recreational Forecast and Zone Fire Weather Matrix products. Developed an updated Low Visibility Occurrence Risk Index parameter for fire weather forecasting. Developed and enhanced numerous forecast tools in GFE, including hazards assessment tools. Enhanced several products, including the Zone Forecast Product, and implemented an automated Short Term Forecast product and an automated State Forecast Product.

*Served as an Adjunct Professor at the University of Louisiana (Monroe) instructing the junior-level dynamic meteorology and senior-level synoptic meteorology courses during Spring Semester 2010.

*Performed research on indices of violent-tornado environments and tropical-cyclone tornadoes resulting in publications listed below.

*Trained forecasters on operationally relevant research related to violent-tornado potential and synoptic-scale environments associated with tropical-cyclone tornadoes.

*Collaborated with the Information Technology Officer in creating AWIPS tools for assessing violent-tornado potential in a forecast mode.

*Organized training materials for forecasters including documentation of operationally relevant research and science modules to improve forecasting, and provided several presentations to the office on forecast theory (isentropic potential vorticity, QG theory, tropical meteorology, case studies, etc.) and ongoing research.

*Participated in the 2010 Continental East SMART BLAST leadership seminar in Huntsville, AL.

*Regularly contributed articles to the office's newsletter, *The ArkLaMiss Observer*.

*Issued routine NWS public, aviation, and fire weather forecasts, as well as hazardous weather watches and warnings.

*Presented SKYWARN spotter talks to community groups and officials within the NWS Jackson, MS County Warning Area.

NOAA/NHC/Tropical Analysis and Forecast Branch (TAFB)
11691 SW 17th Street
Miami, FL 33165-2149 United States

08/2008 - 08/2009
Hours per week: 40
Series: 1340 **Pay Plan:** GS **Grade:** 9
Meteorologist Intern
Duties, Accomplishments and Related Skills:
*Modified scientific computer applications to improve services in an operational meteorological environment and integrated new scientific or technological advances or techniques into forecast operations and procedures, by playing a major role in the development of GFE for operational use at the National Hurricane Center (NHC) and the Ocean Prediction Center (OPC):
1. Programmed several GFE smart tools for use at the NHC and OPC.
2. Assisted in developing a local configuration for marine forecasting in GFE.
3. Prepared scripts in GFE to generate Offshore Waters Forecast formatters for the Gulf of Mexico, Caribbean Sea, tropical North Atlantic, western North Atlantic, and eastern North Pacific. Prepared scripts in GFE to generate marine verification text products and marine forecast matrices.
4. Presented regular progress updates regarding the status of GFE development at NHC. Individually trained forecasters in GFE operations.
5. Wrote training manuals for local GFE operations.
This project was awarded a Regional Isaac Cline Award in 2011.

*Worked with another forecaster to develop a prediction method for gale force wind events in the data-sparse Gulf of California. Used climatological reanalysis tools to develop an index to forecast these events and statistically tested this index. Used the MM5 model to simulate these events at high resolution. Presented these results to NHC staff. This research was published in "Weather and Forecasting".

*Assisted in outreach activities, including representing TAFB at the Miami Boat Show, Miami-Dade County Fair, and NOAA Science Saturday at the NWSFO in Key West.

*Provided radar support during tropical cyclone landfalls, involving regular documentation of approximate center locations, cyclone tracks, and reflectivity and velocity characteristics.

*Prepared the Unified Surface Analysis, involving isobaric analysis over the tropical and selected subtropical areas, placing and tracking surface features, and regular coordination with OPC and HPC on the analyses.

*Prepared the Tropical Weather Discussion for the Atlantic Ocean, Caribbean Sea, and Gulf of Mexico. Documented synoptic surface features as derived from remotely sensed and in-situ data, including surface observations, satellite imagery and satellite-derived products, QuikSCAT, and ASCAT.

*Served as an Atlantic and Pacific Ocean forecaster, involving the preparation of Offshore Waters Forecasts, High Seas Forecasts, Wind/Wave Forecasts, Significant Wave Height Analyses, and Marine Interpretation Messages. Used a variety of operational and ensemble models and observational displays in AWIPS and NAWIPS in forecasting and issuing Gale, Storm, and Hurricane Force Wind Warnings.

NOAA/National Weather Service Great Falls, Montana
5324 Tri-Hill Frontage Rd
Great Falls, MT 59404-4933 United States

09/2007 - 08/2008
Hours per week: 40
Series: 1340 **Pay Plan:** GS **Grade:** 7
General Forecaster
Duties, Accomplishments and Related Skills:
*Initiated and served as the severe weather focal point. Trained staff for severe weather operations, including the use of GR2Analyst. Conducted local severe weather climatologies using GIS and Google Earth. Implemented efficient verification methods and situational awareness displays using Google Earth.

*Co-led the local FXC implementation and training team.

*Organized and wrote articles for the Autumn 2008 NWS Great Falls SKYWARN newsletter.

*Assisted the WCM in preparing and delivering spotter talks and giving school talks.

*Issued routine NWS public, aviation, and fire weather forecasts, as well as hazardous weather watches and warnings, involving regular use of GFE, GHG, WarnGen, AvnFPS, and RiverPro.

*Performed public service duties, including upper air observations, and providing media interviews (print and television).

*Directly involved with the administration of the hazardous weather warning and dissemination program at NWS WFO Great Falls, MT through as-needed warning issuance and verification efforts.

National Weather Center Research Experiences for Undergraduates
120 David L Boren Blvd
Norman, OK 73072 United States

06/2005 - 08/2005
Hours per week: 40
Research Associate
Duties, Accomplishments and Related Skills:
*Researched mesoscale convective system severity under Michael Coniglio, Steve Corfidi, and Sarah Corfidi.

*Presented and co-authored a paper entitled "Discrimination among non severe, severe, and derecho mesoscale convective system environments".

*Participated in seminars with researchers, faculty, and forecasters, covering a broad range of topics in meteorology and development of research skills.

*Developed computer programming skills using Fortran.

NOAA/National Weather Service Tulsa, Oklahoma
10159 E. 11th St. Suite 300
Tulsa, OK 74128 United States

03/2003 - 05/2003
Hours per week: 40
Student Volunteer
Duties, Accomplishments and Related Skills:
*Performed Public Service duties, wrote routine text products including weather summaries and regional weather discussions, answered telephone calls, and performed weather radio operations, including live broadcasts of warnings and manually recording other products on NOAA Weather Radio.

*Learned and practiced manual analysis of surface and upper air weather maps under supervision of the Science and Operations Officer.

*Studied COMET training modules.

*Shadowed forecasters.

*Practiced and developed teamwork skills.

Detailed Education Record

University of Oklahoma Norman, OK United States
Doctorate 12/2015
GPA: 4.0 of a maximum 4.0
Credits Earned: 97 Semester hours
Major: Meteorology
Relevant Coursework, Licenses and Certifications:
-----Examinations/Defenses-----
*Passed the General Exam -- both written and oral sections -- for Ph.D. candidacy in the School of Meteorology at the University of Oklahoma in Autumn 2013.

*Successfully defended dissertation entitled "Southeast U.S. Cold Season Severe Thunderstorm Environments and Their Depictions Using Multiple Planetary Boundary Layer Parameterization Schemes" and successfully completed Doctor of Philosophy in Autumn 2015.

-----Coursework-----

*Topics-Advanced Mesoscale Meteorology -- graduate level.

*Advanced Forecasting Techniques -- graduate level.

*Special Problems -- Parameterization Schemes for NWP -- graduate level.

**Note: "Total Credits Earned" includes all graduate coursework completed at the University of Oklahoma applied to the doctoral degree -- i.e., coursework for both Master's degree and Doctor of Philosophy.

University of Oklahoma Norman, OK United States
Master's Degree 12/2008
GPA: 4.0 of a maximum 4.0
Major: Meteorology
Relevant Coursework, Licenses and Certifications:
-----Research-----

*Performed numerical modeling of storm electrification using a cloud physics model run in Fortran.

*Analyzed statistical relationships between flash rates and microphysical and electrical properties of storms using Mathematica.

*Forecast for, and participated in, the storm electrification field program using analysis of numerical model output.

-----Coursework-----

*Advanced Dynamics I -- graduate level.

*Advanced Dynamics II -- graduate level.

*Advanced Synoptic Meteorology -- graduate level.

*Atmospheric Radiation -- graduate level.

*Atmospheric Electrodynamics with instrumentation and remote sensing focus -- graduate level.

*Information Technology Skills -- graduate level.

*Cloud Physics with instrumentation and remote sensing focus -- graduate level.

*Numerical Weather Prediction -- graduate level.

The Ohio State University Columbus, OH United States
Bachelor's Degree 06/2006
GPA: 4.0 of a maximum 4.0
Credits Earned: 207 Quarter hours
Major: Atmospheric Sciences **Honors:** Summa Cum Laude
Relevant Coursework, Licenses and Certifications:
*Created and taught a laboratory component of the severe-thunderstorm forecasting course under the supervision of one of the department professors.

-----Coursework-----

*Atmospheric Sciences -- introduction to meteorology, atmospheric thermodynamics, dynamics I and II, boundary layer meteorology with instrumentation and remote sensing focus, synoptic meteorology laboratory, synoptic meteorology, climate system modeling, and mesoscale meteorology.

*Math from Calculus I to IV, ordinary differential equations, partial differential equations, vector analysis, and linear algebra.

*Statistics I and II.

*Honors Physics I (mechanics), II (electricity, magnetism, and relativity), and III (thermodynamics and quantum mechanics), each with an integrated laboratory component.

*Oceanography with instrumentation and remote sensing focus.

-----Research-----

*Studied atmospheric temperature changes over Greenland over the preceding several decades, involving computer programming in IDL.

Notable Honors

*Recipient of the Local-Level Isaac Cline Award at the Storm Prediction Center in 2013 for demonstrated operational excellence in productivity, technical proficiency, and initiative as an SPC Mesoscale Assistant Forecaster and setting the gold standard for fire weather forecast collaboration with National Weather Service Forecast Offices and GACC meteorologists.

*Recipient of the Regional Isaac Cline Award in 2011 for outstanding advancements in developing gridded marine weather forecast services at two National Centers.

*Recipient of the WFO Jackson, MS 2010 Regional Director's Exemplary Teamwork Award for involving many different and diverse staff members on projects; mentoring several less experienced meteorologists; building teams to complete projects such as the development of new GFE scripts, office workshops, and research projects; dedication to the NWS and the science of meteorology; volunteering to work many extra hours for overtime; and efforts to support Deepwater Horizon by working at WFO Mobile/Pensacola.

*NWS Jackson, MS Local Isaac Cline Award for outstanding leadership of the WFO JAN Digital Services Program.

*William T. Knight Award for leadership at NWS Jackson, MS.

*Recipient of a certificate of appreciation for outstanding performance providing real-time, impact-based decision support services to the National Weather Service Forecast Office in Mobile/Pensacola to support Deepwater Horizon.

*NHC Local Isaac Cline Award for outstanding leadership in pioneering gridded product generation using GFE in NCEP.

*Certificate of Appreciation from NHC in recognition of outstanding service supporting NHC.

*Special Act or Service Award for developing numerous smart tools in the AWIPS/GFE to enable the production of gridded marine forecast elements over the TAFB Offshore Waters and High Seas Forecast domains and for developing a text formatter to produce text Offshore Waters Forecasts. This represents the first attempt at using the AWIPS/GFE over a large forecast domain and serves as a prototype for other national marine centers. This work has led to a potential savings of $100,000 to TPC that was otherwise slated for contract work to achieve the same results.

*Spot Award for assistance in running the MM5 model for several Gulf of California and Tehuantepec wind events and developing a forecast tool to assess the potential for Gulf of California wind events.

*Special Act or Service Award for outstanding effort to help the OPC configure GFE on AWIPS and for applying TAFB's technical approach on their local configuration of GFE on AWIPS to the World Weather Building's AWIPS system.

*NWS Great Falls Local Isaac Cline Award for excellence in Meteorology for integrating severe weather tools into operations through a WES presentation.

*AMS Industry/Government Graduate Fellowship – 2006-2007.

*86th Annual AMS Conference Outstanding Student Poster Award – March 2006.

Professional Publications/Conference Preprints

-----Lead-authored publications/conference preprints (alphabetized within individual year)-----

***Cohen, A. E.**, 2015: Southeast U.S. cold season severe thunderstorm environments and their depictions using multiple planetary boundary layer parameterization schemes. Ph.D. Dissertation, University of Oklahoma.

***Cohen, A. E.**, S. M. Cavallo, M. C. Coniglio, and H. E. Brooks, 2015: A review of planetary boundary layer parameterization schemes and their sensitivity in simulating southeastern U.S. cold season severe weather environments. *Wea. Forecasting*, **30**, 591-612.

***Cohen, A. E.**, M. L. VanDenHeuvel, G. W. Carbin, and D. Bernhardt, 2014: The 5 June 2012 central Montana tornado event. *J. Operational Meteor.*, **2** (2), 13-26.

***Cohen, A. E.**, and P. Santos, 2012: South Florida flash flooding events. *Electronic J. Operational Meteor.*, **13** (11), 151-172.

***Cohen, A. E.**, 2010: Synoptic-scale analysis of tornado producing tropical cyclones along the Gulf Coast. *Natl. Wea. Dig.*, **34** (2), 99-115.

***Cohen, A. E.**, 2010: Indices of violent tornado environments. *Electron. J. Oper. Meteor.*, **11**, 2010-EJ6.

***Cohen, A. E.**, and J. P. Cangialosi, 2010: An observational and high-resolution model analysis of gale wind events in the Gulf of California. *Wea. Forecasting*, **25**, 613-626.

***Cohen, A. E.**, and J. P. Cangialosi, 2010: An observational and high-resolution model analysis of gale wind events in the Gulf of California. Preprints, *14th Symposium on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface (IOAS-AOLS)*, Atlanta, GA, Amer. Meteor. Soc., 2.5.

***Cohen, A. E.**, E. Christensen, C. A. Juckins, J. P. Cangialosi, C. Lauer, H. D. Cobb, and M. Nelson, 2010: The implementation of the Graphical Forecast Editor for a national center marine domain. Preprints, *26th Conference on Interactive Information and Processing Systems (IIPS) for Meteorology, Oceanography, and Hydrology*, Atlanta, GA, Amer. Meteor. Soc., 7B.7.

***Cohen, A. E.**, J. Schauer Clark, and J. P. Cangialosi, 2009: Tropical Atlantic and tropical east Pacific areas January through April 2009. *Mariners Weather Log*, **53** (2).

***Cohen, A. E.**, and E. R. Mansell, 2008: Flash rate, electrical, microphysical, and dynamical relationships across a simulated storm spectrum. Preprints, *3rd Conf. on Meteorological Applications of Lightning Data*, New Orleans, LA, Amer. Meteor. Soc., 4.5.

***Cohen, A. E.**, 2008: Montana severe weather climatology using Geographic Information System and Google Earth. National Weather Service Technical Attachment 08-11.

***Cohen, A. E.**, 2008: Flash rate, electrical, microphysical, and kinematic relationships across a simulated storm spectrum. M.S. thesis, University of Oklahoma, 71 pp.

***Cohen, A. E.**, M. C. Coniglio, S. F. Corfidi, and S. J. Corfidi, 2007: Discrimination of mesoscale convective system environments using sounding observations. *Wea. Forecasting*, **22**, 1045-1062.

***Cohen, A. E.**, M. C. Coniglio, S. F. Corfidi, and S. J. Corfidi, 2007: Discrimination of mesoscale convective system environments using sounding observations. Preprints, *23rd Conf. on Severe Local Storms*, St. Louis, MO, Amer. Meteor. Soc., CD-ROM, 2.4.

-----Co-authored publications/conference preprints (alphabetized within individual year)-----

*Campbell, M. A., **A. E. Cohen**, M. C. Coniglio, A. R. Dean, S. F. Corfidi, S. J. Corfidi, and C. M. Mead, 2016: Structure and motion of severe-wind-producing mesoscale convective systems and derechos in relation to the mean wind. *Wea. Forecasting*. doi:10.1175/WAF-D-16-0060.1, in press.

*Carlaw, L. B., **A. E. Cohen**, and J. W. Rogers, 2016: Synoptic and mesoscale environment of convection during the North American Monsoon across central and southern Arizona. *Wea. Forecasting*. doi:10.1175/WAF-D-15-0098.1, in press.

*Corfidi, S. F., M. C. Coniglio, **A. E. Cohen**, and C. M. Mead, 2016: A proposed revision to the definition of "derecho". *Bull. Amer. Meteor. Soc.*, **97**, 1-15.

*Rogers, J. W., B. A. Hagenhoff, **A. E. Cohen**, R. L. Thompson, B. T. Smith, and E. E. Carpenter, 2016: Lower Mississippi River Valley quasi-linear convective system tornado environments and radar signatures. *J. Operational Meteor.*, fully accepted and being prepared for online posting.

*Rogers, J. W., **A. E. Cohen**, and L. B. Carlaw, 2016: Convection during the North American Monsoon across central and southern Arizona: Applications to operational meteorology. *Wea. Forecasting*. doi:10.1175/WAF-D-15-0097.1, in press.

*Hart, J. A., and **A. E. Cohen**, 2016: The Statistical Severe Convective Risk Assessment Model. *Wea. Forecasting*, **31**, 1697–1714.

*Hart, J. A., and **A. E. Cohen**, 2016: The challenge of forecasting significant tornadoes from June to October using convective parameters. *Wea. Forecasting*, **31**, 2075–2084.

*Hagenhoff, B. A., **A. E. Cohen**, J. W. Rogers, E. E. Carpenter, R. L. Thompson, and B. T. Smith, 2015: Lower Mississippi River Valley quasi-linear convective system tornado environments and radar signatures. Preprints, *40th Natl. Wea. Assoc. Annual Meeting*, Oklahoma City, OK, AP11.

*Smith, B. T., R. L. Thompson, A. R. Dean, E. M. Leitman, J. S. Grams, **A. E. Cohen**, A. Gleason, J. C. Picca, P. T. Marsh, R. Wagenmaker, and G. Mann, 2015: Developmental work at the Storm Prediction Center in pursuit of tornadic supercell probability and tornado intensity estimation using a severe supercell dataset. Preprints, *40th Natl. Wea. Assoc. Ann. Meeting*, Oklahoma City, OK, 8 pp.

*Hurlbut, M. M., and **A. E. Cohen**, 2014: Environments of northeast U.S. severe thunderstorm events from 1999 to 2009. *Wea. Forecasting*, **29**, 3-22.

*Kessler, E., **A. E. Cohen**, S. F. Corfidi, and S. J. Corfidi, 2013: Easing into Norman: Ed Kessler on the origins and growth of the National Severe Storms Laboratory. *Bull. Amer. Meteor. Soc.*, **94**, 1645-1648.

*Box, J. E., and **A. E. Cohen**, 2006: Upper-air temperatures around Greenland: 1964-2005. *Geophys. Res. Lett.*, **33**, L12706, doi:10.1029/2006GL025723.