



The NWA: Connecting  
operational meteorologists  
in pursuit of excellence  
in weather forecasting,  
communication, and  
service.

No. 13 – 5/6

# Newsletter MAY/JUNE

2013

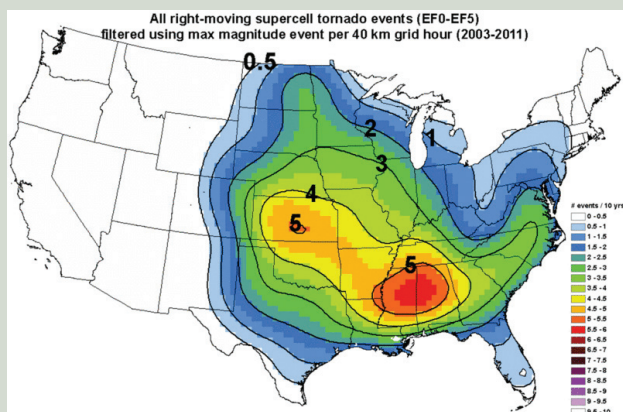
## Tornado Environment Browser

Bryan Smith

A tornado environment dynamic Web page browser for the contiguous U.S. (CONUS) is now available on the Storm Prediction Center's (SPC) website (<http://www.spc.noaa.gov/>). Using tornado environment/convective mode samples in the 2003-2011 period, the browser displays statistical information of supercell-related convective parameters accompanied by smoothed tornadic convective mode climatology images. Through a collaborative effort between SPC forecasters, SPC techniques development meteorologists, a National Severe Storms Laboratory (NSSL) scientist, and a graduate student with the University of Oklahoma, this work is an example of a Research-to-Operations (R2O) Web-based tool. It has multiple applications that can serve to enhance severe storm training material, provide a climatological reference to forecasters in a real-time situational awareness warning situation and in a post-mortem setting, and act as a mechanism to further outreach to the severe storms community.

This 9-year tornadic storm climatology is accessed using a Web browser point-click on a CONUS map. All convective modes depicted in the maps are derived from tornado segment data filtered by maximum EF-scale on an hourly 40-km

horizontal grid (about the size of a county in southeastern Kansas) and smoothed using a gaussian kernel. The count per decade maps show the occurrence of a particular tornadic storm mode estimated for a 10-year period based on the 9-year sample. The relative frequency maps show estimated percentages of a particular tornadic



**Figure 1: Count per decade map showing the occurrence of tornadic right-moving supercells (2003-2011).**

See **BROWSER**, page 7

## Edition is a Combined May-June Issue

As a result of a reduced flow of articles for the NWA Newsletter, this edition is a combined May-June 2013 issue. I would like to encourage all members to submit items for our newsletter. In addition to quick reports regarding ongoing studies, articles concerning accomplishments and milestones reached by members (individual and corporate) are encouraged. Also, local chapter activities and expanded details regarding upcoming meetings and conferences would be great.

Steve Harned  
Executive Director

Submit newsletter items to  
[nwanewsletter@nwas.org](mailto:nwanewsletter@nwas.org) using the  
Instructions for Authors at: [www.nwas.org/newsletter/newsletter\\_instructions.php](http://www.nwas.org/newsletter/newsletter_instructions.php).

The local chapter team thanks  
the NWA IT Committee for  
their assistance creating the  
new page. Details on page 2!

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## NWA Membership Demographic Changes

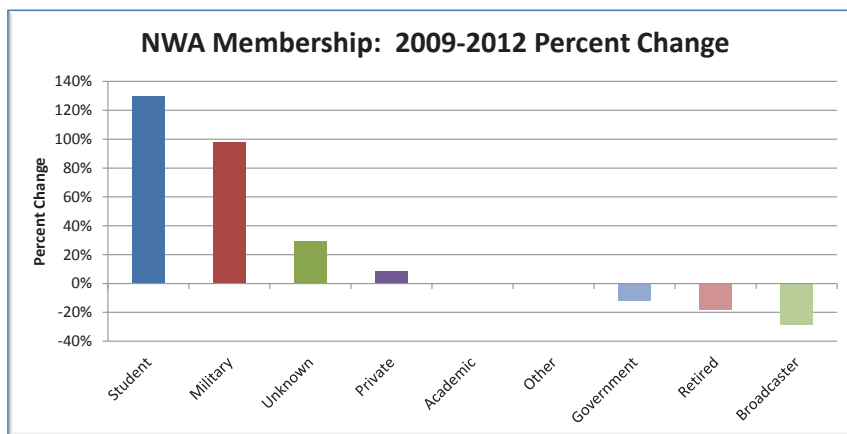
Frank Brody, Michele Kocen, Janice Bunting

NWA membership demographics have evolved between 2009 and 2012. Table 1 and Figure 1 show the percent changes from 2009 to 2012. The largest four year increases have been in the student (+130 percent) and military (+98 percent) categories. Broadcaster membership numbers have decreased over the four years by 29 percent. Government and retired member percentages also decreased by 12 and 18 percent, respectively.

These demographic changes represent opportunities and challenges. The increase in student membership is encouraging since students and early-career professionals are critical for the

future of NWA. The associated challenge is in retaining those student members as they move further along in their career. The decrease in broadcaster membership is an important trend that must be monitored by the NWA, since broadcasters are a vital component of the NWA. The same is true of the decrease in our government and retiree members. Our goal is to retain members in all categories.

Membership data was provided by the NWA office. Analysis and charting was done by the Membership and Marketing Committee.



Member Category	2009 Total	2012 Total	Percent Change
Students	325	748	+ 130
Military	58	115	+ 98
Unknown	115	149	+ 30
Private	300	327	+ 9
Academic	148	148	0
Other	37	37	0
Government	722	634	- 12
Retired	205	168	- 18
Broadcasters	942	671	- 29
<b>TOTAL</b>	<b>2852</b>	<b>2997</b>	<b>+ 5</b>

Figure 1: NWA membership demographic changes by category, 2009 – 2012.

Table 1: NWA membership changes by category, 2009 – 2012.

## Connect with a Local Chapter using a new Web Page

Janice Bunting, Local Chapter Team Member

A new interactive map (see below) on the remodeled Local Chapters web page makes it easier for NWA members to locate a local chapter in their area, and gives local chapters more opportunities to share contact information. The page also includes lists of chapters by state and by their Greek name.

If there is not a local chapter in your area, the web page includes guidance for forming one. Other features of the new site include the Chapter Resources page, which has answers to frequently asked questions, and instructions to update contact information or provide web page and social media links.

Local chapters organize in a variety of different ways: around

an academic center, geographic location, research institution, military posts, commercial interest, etc. Whatever your focus, the NWA wants to provide the information, resources and references you need to be an active and successful local chapter.

Local chapters provide an opportunity for NWA members to connect with others. They often invite speakers, organize tours, sponsor and judge science fairs, and participate in community services. We hope that in addition to these activities your local chapter may also consider taking advantage of the NWA's professional development and leadership opportunities, sponsoring or attending the NWA Annual Meeting or regional scientific meetings, submitting an article for publication, nominating candidates for awards, representing the NWA, and/or staffing a booth at professional meetings in your area.

The NWA encourages all members to join or form a local chapter and also invites all local chapter members to become members of the NWA.

Questions and suggestions regarding NWA local chapters, and the new page, may be directed to [localchapter@nwas.org](mailto:localchapter@nwas.org).



## Weathering it in Tornado Alley and Beyond

After a record-setting 12 month drought of tornadoes from May 2012 to April 2013 across America, a pattern shift has occurred where many Strong (EF2-3) and Violent (EF4-5) tornadoes have hit in America's traditional Tornado Alley. Our friends and colleagues at the SPC and the local Fort Worth, Norman and Wichita NWS offices did exemplary work getting the severe weather risks, watches and warnings out to the local media for redistribution to the public. Broadcast meteorologists from North Texas to Iowa were extremely busy getting the message out and tracking the storms. However, there are still too many people losing their lives or receiving life-changing injuries during these tragic events.

Our goal as operational meteorologists is to produce the very best forecasts for severe weather risk and track the movement of severe storms to help better protect life and property. Having a family plan of action, getting the warnings early from social and traditional media, using NOAA weather radio, phone messaging services and apps are all good ways of staying informed, although no one source of information is fail proof during a major event. Every person or family should have a plan of action to obtain optimal personal safety. Having a safe place to gather and wait for the storm to pass is paramount to your survival in many cases. I like to say "prayer is not a plan." Having a plan of action, then praying for protections is a much better course of action. I encourage our entire NWA membership to become "Preachers of Preparedness" and continually beat the drum whenever possible in your communities.

The NWA has recently created a position statement on this topic, which can be found at [http://www.nwas.org/advocacy/use\\_of\\_storm\\_shelters.pdf](http://www.nwas.org/advocacy/use_of_storm_shelters.pdf). Our Council and Executive Committee are strong advocates for safe rooms in homes, businesses and schools. Please help us get the message out: "Safe Rooms Save Lives!" Our thoughts and prayers go out to the victims and their families of the May 2013 tornado outbreaks.



*President Bruce Thomas in a storm shelter installed in a garage floor at a friend's house in Tennessee.*

*Bruce Thomas, NWA President*

### New NWA Members in April & May 2013

#### Regular/Military/Retired

Michelle Apon  
Kenneth Brewer  
Thomas Catrett  
Christopher Darling  
Dean Davison  
Keith Fields  
Christopher Hill  
Demetrius Ivory  
Richard Jeffries  
Kristin Ketchell  
Paul Kirkwood  
Nicholas Lilja  
John Massura  
Stephanie Midgett  
Chris Nallan  
Gregory Pollak  
Kevin Roth  
Michael Seger

#### Dr. Marshall Shepherd

Nengwei Shih  
Ron Steve  
Virginia Stone  
Jessica Talley  
Leonard Vaughan  
Eileen Whelan

#### Students

Ivetta Abramyan  
Coral Arroyo-Baez  
Djenaba Aswad  
Ashley Athey  
Amy Barber  
Joseph Bauer  
Heather Boling  
Jessica Bozell  
Casey Bray  
Haley Brink

#### Kelly Bryant

Nicholas Camizzi  
Avonna Campbell  
Hannah Chandler  
Benjamin Davis  
Roger Delgado  
Andrew Desnoyers  
Lauren Duhon  
Peter Effertz  
Matthew Elliott  
Erik Esparza  
Seth Fangue  
Kathryn Franks  
Brianna Guzman  
Kathy Haselhorst  
Shelby Hays  
Sabrina Jauernic  
Matthew Jay  
Carolina Jones

#### Kirsten King

William Leatham IV  
Matthew Little  
Alexandra Marmo  
Athena Masson  
Ricky Matthews  
Megan McClellan  
September Meagher  
Laura Mock  
Brendan Richardson  
Michael Rizzo  
Ashley Ruiz  
Kaitlin Rutt  
Will Stafford  
Andrew Vande Guchte  
Chunpeng Wang  
Katie Western  
Bryan Williams  
Allison Young



# Three Rivers NWA Chapter Quarterly News April-June 2013

## California University of Pennsylvania (Cal U)

<http://hera.calu.edu/clubs/weather/>

Brittany Kusniar, Secretary

The Three Rivers Chapter of the NWA had a busy end of the semester. Chapter members were involved with Colloquia Series speakers, educational outreach, social and community events, fundraising, and workshops. Many chapter members will also be active with internships over the summer.

### COLLOQUIA SERIES

The Colloquial Series Committee was busy during April, bringing in three speakers. Paul Flaherty from the National Oceanic and Atmospheric Administration (NOAA) Aircraft Operations Center in Tampa, Fla., was the first speaker. He spoke to members about his career as a hurricane hunter. He gave an interesting presentation on not only hurricane hunting, but on what other operations he has done. These included flights into pollution, severe weather, winter storms, and other weather phenomena. The next speaker was alumnus Guy Nestor. He delivered a presentation to members about his career as an on-site meteorologist for professional golf tours. As a meteorologist with the Mobile Weather Team Inc., Guy has traveled to Spain, Russia, Italy, and many other countries creating weather forecasts for professional golf tournaments. His forecasts are used for setting up tournament courses as well as keeping the participants and the audience safe in cases of severe weather. The final speaker of the semester was Rich Wirdzek. Mr. Wirdzek is a broadcast meteorologist for WHIO-TV in Dayton, Ohio. He spoke to the chapter about his career as a broadcast meteorologist. Rich highlighted key points in how to acquire a job in broadcast meteorology. He also discussed various things a broadcaster should and shouldn't do in order to be successful.

### EDUCATIONAL OUTREACH

The Educational Outreach Committee (EOC) wound down the semester with two presentations at local schools in April. They traveled to Wendover Middle School and gave a presentation on Cal U's storm chase course. Each year, after an application process, chapter members are selected to attend a two week storm chase course. Members who had been selected to attend in previous years spoke to the middle school students about their past chase experiences. The EOC also traveled to McGuffey High School to talk to students about various careers as a meteorologist.

Also in April, The chapter's EOC chair, Jason Dohoda, created his first two podcasts as Dewey Sleet the Weather Geek titled "Tornadoes and Safety" and "The Four Seasons". Both were streamed to the chapter's Facebook, Twitter, and YouTube pages. The goal of these podcasts is to supplement our educational outreach program. The videos can be used before our team arrives at a school or as part of the team's presentation. Intentions are that after a class is introduced to the podcasts, they can listen to the next podcast lesson in weather and weather safety.

In May, the EOC traveled to North Hills Junior High School where they gave an all-day presentation to around 350 students on natural hazards. The topics they covered included the Joplin tornado, Superstorm Sandy, and the meteor shower in Russia. The previous EOC chairman, Donald Jellison Jr., was invited to speak at McGuffey Middle School's Career Day event on May 3. He informed students about the various career paths in meteorology and GIS. In total, the committee traveled to six different schools, teaching over one thousand students about the earth sciences.

### COMMUNITY PARTICIPATION

Chapter members were actively involved with philanthropic community events. Members participated in Relay for Life on campus on April 12-13. This fundraiser was an all-night event. Members participated in various activities hosted throughout the night while raising money for cancer research. The men in the chapter participated in "Walk a Mile in Her Shoes." This event was hosted on campus and supported the fight against domestic violence and gender inequality.

See CHAPTER page 5



*Educational Outreach Chairman and Treasurer, Jason Dohoda, supporting the fight against domestic violence at "Walk a Mile in Her Shoes."*

## CHAPTER from page 4

The guys walked one mile in high heels to support this worthy cause. Chapter members participated in the Multiple Sclerosis 5K Walk in Pittsburgh on April 21. It was a great way to get chapter members involved outside of the classroom and their participation supported a great foundation.

### SOCIAL EVENTS

The chapter hosted a few social events as the semester came to a close. Many members attended a Pittsburgh Pirate game in May. The annual Earth Sciences Department banquet was held on May 10. All of the graduating seniors in the department were honored at this banquet, and various scholarships were also awarded. This was a great time for all of the students in the department to get together before the end of the semester. The end of the year social was held at the Jerome Bettis Grille in Pittsburgh. Senior send-offs were given to graduates, Emanuel Janisch and Michael Hackenburg wishing them the best of luck in their future endeavors. Alumni were in attendance as well.

### FUNDRAISING and WORKSHOPS

The chapter hosted a Community Fun Night fundraiser at Madres Mexican, a local restaurant on April 16. Flyers were handed out to family and friends for this event, which lasted all day. With the flyer, the chapter received 20% of each bill.

The Pittsburgh NWS office conducted SKYWARN training on campus. This training session was open to the public as part of our Weather Ready Nation requirements. Students selected to participate in the summer storm chase field class were required to attend the workshop.

### LOOKING AHEAD

#### *Election Results*

Chapter elections were held on May 11. Congratulations to the newly elected officers,

- President: Elizabeth Smith
- Vice President: Thomas Hafer
- Secretary: John Troutman
- Treasurer: Damon Matson
- Historian: Jamie Melzer
- Social Media Coordinator: Ryan Lingo.

#### *Storm Chase Field Experience*

The Meteorology Department offers a three-credit field course every summer listed as a “Field Course/Methods in Earth Sciences,” but students know it simply as “Storm Chase”. This course is geared toward meteorology majors in the program, but is not limited to just majors; anyone can take part in this course. This year nine students will be participating in the class from May 27-June 8. To stay up to date on their travels, follow the chapter on its Facebook and Twitter feeds at <http://hera.calu.edu/clubs/weather/>.

#### *Summer Internships*

Many chapter members will be busy over the summer with internships. Hollings Scholar Elizabeth Smith will be traveling to NWS in Cheyenne, Wyo., to research the 2-inch soil temperature effect of snowfall rates. Brittany Kusniar and Jamie Melzer will be interning at the Pittsburgh NWS office and completing individual research on different topics. Brittany Kusniar will also be interning at Ohiopyle State Park. Matthew Hladio will be interning at KDKA-TV in Pittsburgh and Matthew Riddle will be interning at WTAJ-TV in Altoona.

## High Plains AMS/NWA Chapter News

Bill Taylor, President  
Tim Burke, Secretary

The High Plains Chapter of the AMS/NWA (<http://www.highplains-amsnwa.org/>) held a teleconference and webinar on Monday, April 22, at 12:30 p.m. CDT. There were 23 members dialed into the teleconference. President Bill Taylor North Platte, Neb., NWS office welcomed everyone to the phone call, and started a brief business meeting. Treasurer Scott Bryant of the Hastings, Neb., NWS office gave the chapter financial report and the balance of the Jim Johnson Scholarship fund. Members were encouraged to pay their 2013 dues to a representative from each forecast office by May 15. Each office representative will then mail the collected dues to Treasurer Scott Bryant. The Jim Johnson Scholarship chairman, also Scott Bryant, summarized that program. The committee received applications from six good candidates, and chose Connor Dennhardt as the winner. Connor just graduated from high school and will attend the University of Nebraska at Lincoln in the fall. Learn more about Connor on our website, <http://www.highplains-amsnwa.org/>. The High Plains conference was addressed, and for now, the chapter decided to keep things as they are: no conference will be hosted this year due to limited funds.

Our guest speakers during the teleconference were Aaron Johnson, the SOO at the Dodge City, Kan., NWS office, and Kelly Sugden, also from the Dodge City office. The title of their presentation was “Evaluation of Numerous Thermodynamic and Wind-Related Hail Parameters from RUC-2 Soundings.” They showed many examples of ways to determine the vertical temperature profiles and wind regimes to forecast the possible size of hail. Aaron Johnson has a cell phone application available to anyone who wants it that helps predict the possible size of hail. Contact Aaron via email at [aaron.johnson@noaa.gov](mailto:aaron.johnson@noaa.gov) for more information. The meeting ended at 12:40 p.m. CDT, and the presentation ended at 1:17 p.m. CDT. The next meeting will be in June, with meeting details provided to chapter members later.

# **NWA 38th Annual Meeting**

**October 12 - 17, 2013**

**Charleston, S.C.**

<http://nwas.org/meetings/nwa2013/>

## **High-Impact Weather Communications: Finding Calm in the Eye of the Storm**

*Hurricanes Sandy and Isaac in 2012 put further emphasis on a critical question facing the weather enterprise: How do we encourage people to take appropriate action when high-impact weather is threatening them and their property? This issue is certainly not new, but the proliferation of avenues which citizens receive such information (which can be conflicting at times) has brought this topic to an even higher level of importance. The main goal of the conference is the sharing of physical and social science in order to determine how the weather enterprise can encourage people to take appropriate action during high-impact weather events, while realizing there are still limitations of each discipline*



### **Schedule of Events and Meeting Overview**

The 2013 NWA Annual Meeting will include the annual Broadcaster Workshop, and the Sixth Annual Student Session, both on Sunday, October 13. The general sessions will be held October 14-17. The NWA annual awards luncheon will be held on Wednesday, October 16.

### **Contact Info**

Annual Meeting Program Committee Chair:  
Frank Alsheimer

Science and Operations Officer  
National Weather Service Forecast Office  
Charleston, SC  
[annualmeeting@nwas.org](mailto:annualmeeting@nwas.org)

Broadcaster Workshop Program Chair:  
Mike Goldberg  
WTVR-TV  
Richmond, VA 23230  
[mgoldberg@wtvr.com](mailto:mgoldberg@wtvr.com)

For more information on exhibits, special accommodations, registration and the overall meeting program, keep checking this web page and the links above or contact the NWA office at (919) 845-1546 or [exdir@nwas.org](mailto:exdir@nwas.org).

### **Social Media**

The NWA will provide updates on this Web page, on the NWA Facebook Page, Twitter and other social media. Please use the hashtag #NWA13 for any tweets associated with the 2013 Annual Meeting.

### **Abstract Submission (New extended deadline!)**

Submit abstracts for both oral and poster presentations by 1 July 2013.

Abstracts should be sent via the online form on the NWA Web site at: [www.nwas.org/2013abstracts.html](http://www.nwas.org/2013abstracts.html). If you are unable to submit your abstract via the online form, please contact the NWA office at (919) 845-1546 or email: [exdir@nwas.org](mailto:exdir@nwas.org).

Presenters will be notified via e-mail regarding the disposition of their abstracts by late August 2013 from the Program Committee. A preliminary agenda will be posted on the NWA Web site by early September for presenters to review and proofread.

Students, please complete the abstract submission form section regarding student awards. If you concur, your presentations will be reviewed by the NWA Weather Analysis and Forecasting Committee members. Monetary awards will be presented to the best oral presentations and posters in undergraduate and graduate student categories.

### **Extended Abstracts**

If authors wish to expand their abstracts and presentation material into a more complete paper, that will be accommodated as well. This will allow the extended abstract to be cited as with papers from other conferences that publish such manuscripts (i.e., preprints). See page 3 for additional details!

**Meeting Location**  
**North Charleston Convention Center**  
**5001 Coliseum Drive**  
**North Charleston, SC 29418**

**Host Hotel (Right next door to the meeting!)**  
**Embassy Suites North Charleston**  
**5055 International Boulevard**  
**North Charleston, South Carolina, 29418**



storm mode for each horizontal grid. For example, discrete right-moving supercells tend to be a more common tornadic storm mode in parts of the High Plains, whereas tornadic storms within a line are responsible for greater than one third of tornado events from the northern Gulf Coast states northward through the Ohio Valley region (Fig. 1 on page 1). Smoothed spatial maps of tornadic convective mode occurrence, consisting of over 10,000 tornado events, simultaneously change when the user selects a different convective mode from a pull-down menu. Other miscellaneous tornado climatology information (1962-2011) can also be displayed, such as annual and diurnal frequency.

The parameter values are derived from archived SPC mesoanalysis grids, within 120 km around each 40 km horizontal grid point. Only environmental information from neighborhood samples consisting of 10 events or more are included in the box-and-whisker plots (Fig. 2). Additionally, the tornado environment browser will soon include spatial maps showing the variability of the environmental parameters for the neighborhood samples that consist of 10 or more events. Collectively, this Web-based tool illustrates the regional differences in tornadic storm morphologies and environments.

A point-click Web-based interface on the SPC mesoanalysis Web page (<http://www.spc.noaa.gov/exper/mesoanalysis/>) shows current grid-hour parameter values overlaid as a vertical bar on box-and-whisker displays that represent the 9-year data

sample. SPC will update the database on an annual basis after tornadic data have been analyzed from the prior year.

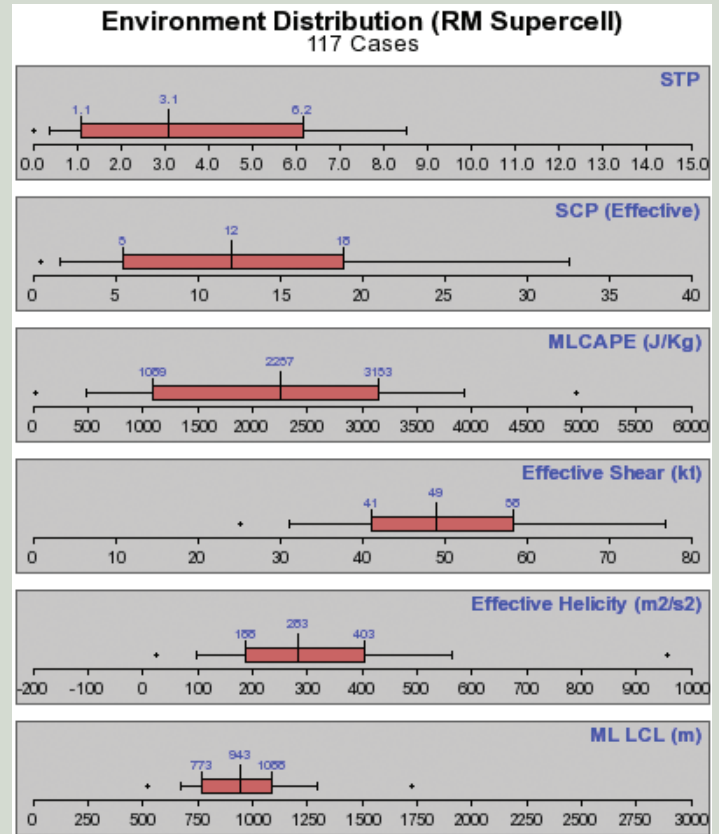


Figure 2: Box-and-whisker plots of parameters associated with tornadic right-moving supercells in the 9-year data sample.

## 2013 NWA sponsored Annual Meetings, Conferences and Special Events

Oct. 12-17: The 38th NWA Annual Meeting

See page 6.

Oct. 28-29: 8th Annual Northern Plains Winter Storm Conference (2013NPWSC)

It will be held at St. Cloud State University in Saint Cloud, Minnesota. Abstracts due Oct. 4. The Central Minnesota NWA Chapter at SCSU is a sponsor. <http://www.stcloudstate.edu/ahs/npwsc/default.asp>

## Other Meetings, Conferences and Special Events in 2013

July 16-18: 2013 Road Weather Management Stakeholder Meeting

Sponsored by the Federal Highway Administration (FHWA) in Little Rock, Ark. The purpose of the meeting is to provide a venue for peer exchange between the transportation and weather enterprise communities.

[http://www.its.dot.gov/meetings/roadweather\\_meeting\\_stakeholder2013.htm](http://www.its.dot.gov/meetings/roadweather_meeting_stakeholder2013.htm)

September 16-20: The 19th AMS Satellite Meteorology, Oceanography and Climatology Conference and the 2013 EUMETSAT Meteorological Satellite Conference

This international conference will be held in Vienna, Austria. Session topics include current and future satellites, instruments and their applications, climate, calibration and characterization, and data access for easy utilization. The overarching theme will be water vapor, clouds, and precipitation, and the use of current and planned Earth observation systems to improve our understanding and adequately monitor trends and variability in the global hydrological system. [www.conferences.eumetsat.int](http://www.conferences.eumetsat.int)

September 23-26: Virtual US-Canada Border Conference

Via Webinar, it will cover many topics related to weather along the US-Canada Border. Abstracts due June 30.

[http://www.crh.noaa.gov/bis/?n=nws\\_border\\_conference](http://www.crh.noaa.gov/bis/?n=nws_border_conference)

## Lightning Beware!

*Catch Winnie Crawford's Lightning Safety article coming in our next Newsletter! In the meantime, remember Lightning Awareness Week is June 23-29.*

*For details see:*

<http://www.lightningsafety.noaa.gov/>



## In memoriam ...

### Mark Walden

Mark Walden, Chief Meteorologist for ABC 24 in Memphis, Tennessee, passed away unexpectedly in early April. Mark was a long-time NWA member who had held the NWA Weathercaster Seal of Approval for over 10 years.

For more, please refer to [http://www.localmemphis.com/news/local/story/ABC-24-Mourns-Death-of-Chief-Meteorologist-Mark-V1XbFNNA5EefykTp8WE9\\_w.csp](http://www.localmemphis.com/news/local/story/ABC-24-Mourns-Death-of-Chief-Meteorologist-Mark-V1XbFNNA5EefykTp8WE9_w.csp)



Steve Harned  
Executive Director

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Members receive the Newsletter and access to an on-line portal which includes the Journal of Operational Meteorology as part of their regular, student or corporate membership privileges.

Address, phone number, email and affiliation changes can now be made online: [member.nwas.org](http://member.nwas.org).

## IMPORTANT DATES

### **July 1**

Deadline for submitting abstracts for the 38th Annual Meeting, Charleston, S.C.

### **August 1**

Deadline for submitting nominations for 2013 NWA Annual Awards

### **October 12-17**

38th NWA Annual Meeting, Charleston, S.C.

National Weather Association  
228 W. Millbrook Rd.  
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Address Service Requested