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

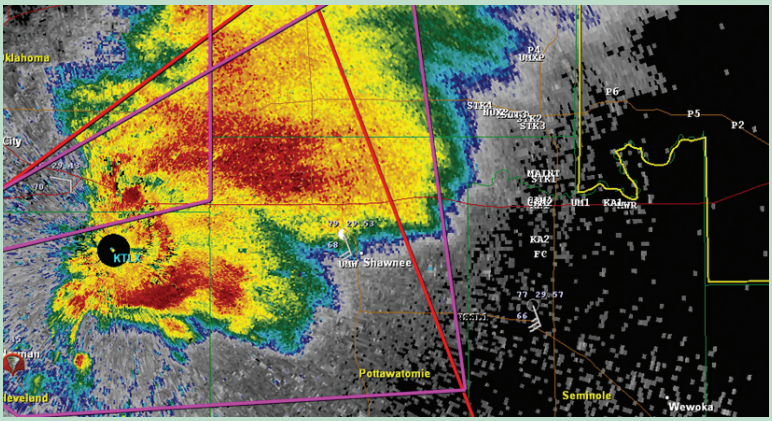
No. 12 – 10

Newsletter OCTOBER 2012

Modest Dues Increase for 2013

The National Weather Association is striving to develop and provide more services for members. These include the new weekly email Newsbrief, professional subject Webinars, and soon, an online "Learning Center" where members can see presentations given at the recent annual meeting in Madison. This service will be free to members.

Providing these new services and the fact that our dues structure for the past several years has not kept up with inflation, the NWA Council has voted for a modest dues increase for 2013. Regular dues for 2013 will increase from $45 to $50 per year while student, active duty military and retired dues will go from $18 to $20.



A radar display of base reflectivity at 0.5-degree elevation from the Oklahoma City WSR-88D at 2240 UTC 10 May 2010, a big day for the V2 project. Polygons show areas of tornado warnings (pink) and severe thunderstorm warnings (red) in effect. V2 armada locations are in white letters north of Seminole. The storm over the radar eventually produced an EF-4 tornado as it moved northeast into the eastern portions of Norman, Okla. This graphic is part of a new EJOM article — see page 7 for details

A Message from Our Acting President Bruce Thomas

Our 37th Annual Meeting in Madison, Wis., was an amazing event for all members who were able to attend. There were plenty of educational talks and posters to further one's interest in operational meteorology. Many of our National Weather Service (NWS) members and presenters were unable to attend due to last minute decisions based on budget constraints within National Oceanic and Atmospheric Administration (NOAA)/ NWS and the Department of Commerce. The NWA staff and meeting volunteers rose to the task by using software from Go-to-Meeting and other forms of technology to assist speakers with presenting remotely. A special thanks to all remote speakers and poster presenters who shipped their posters overnight to the conference hotel to keep the educational content of our yearly meeting as close to the originally promised agenda. SKYPE VoIP was used to present the Aviation and NWA Member of the Year Awards remotely during the annual awards luncheon.

These challenges only proved that the determination of our predominately volunteer staff is what makes our organization great. Please start planning now to be part of our 38th Annual Meeting in Charleston, S.C., October 12-17, 2013 as we are sure you will find it well worth your time and money. The NWA is a professional weather organization and thanks to members like YOU, it is stronger and more vibrant than ever.

INSIDE THIS EDITION ...

The use of the North Alabama Lightning Mapping Array in the Real-Time Operational Warning Environment during the March 2, 2012, Severe Weather Outbreak in Northern Alabama

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NWS Huntsville, Ala.

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The North Alabama Lightning Mapping Array (NALMA) is a very high frequency (VHF) detection network consisting of 11 sensors spread across north central Alabama and two sensors located in the Atlanta, Ga., region. The primary advantage of this network is that it detects total lightning, or the combination of both cloud-to-ground and intra-cloud lightning, instead of cloud-to-ground lightning alone. This helps build a complete picture of storm evolution and development, and can serve as a proxy for storm updraft strength, particularly since intra-cloud lightning makes up the majority of all lightning in a typical thunderstorm.

While the NALMA data do not directly indicate severe weather, they can indirectly indicate when a storm is strengthening (weakening) due to increases (decreases) in updraft strength, as the updraft is responsible for charging mechanisms within the storm. Data output are VHF radiation sources, which are produced during lightning breakdown processes. These sources are processed into 2x2 km source density grids and are ported into the Advanced Weather Interactive Processing System (AWIPS) for NWS offices in Huntsville, Ala., Nashville, Tenn., Morristown, Tenn., and Birmingham, Ala., in near real-time. An increase in sources, or source densities, correlates to increased lightning activity and trends in updraft magnitude as long as the storm is within about 125 km of the center of the network.

Operationally, these data have been used at the Huntsville NWS office since early 2003 through a collaborative effort with NASA's Short-term Prediction Research and Transition Center. Total lightning observations have become an essential tool for forecasters during real-time warning operations. One of the operational advantages of the NALMA is the two-minute temporal resolution of the data. This provides forecasters with two to three updates during a typical volume scan of the WSR-88D radar. The total lightning data can increase a forecaster's confidence to issue or not issue a warning since the NALMA data provide additional insight into the storm's evolution between radar volume scans.

On the morning of March 2, 2012, the NALMA data were used to assess and anticipate the potential for severe weather. Figure 1 is a four panel display from AWIPS preceding the initial severe thunderstorm and tornado warnings that morning. At this time, a line of showers and thunderstorms was aligned generally from southwest to northeast across the area. Radar reflectivity values were around 60-65 dBZ near the towns of Oliver and Red Bank. Maximum source density values were just over 200, indicating the areas of heaviest rainfall and strongest updraft, respectively. A broad area

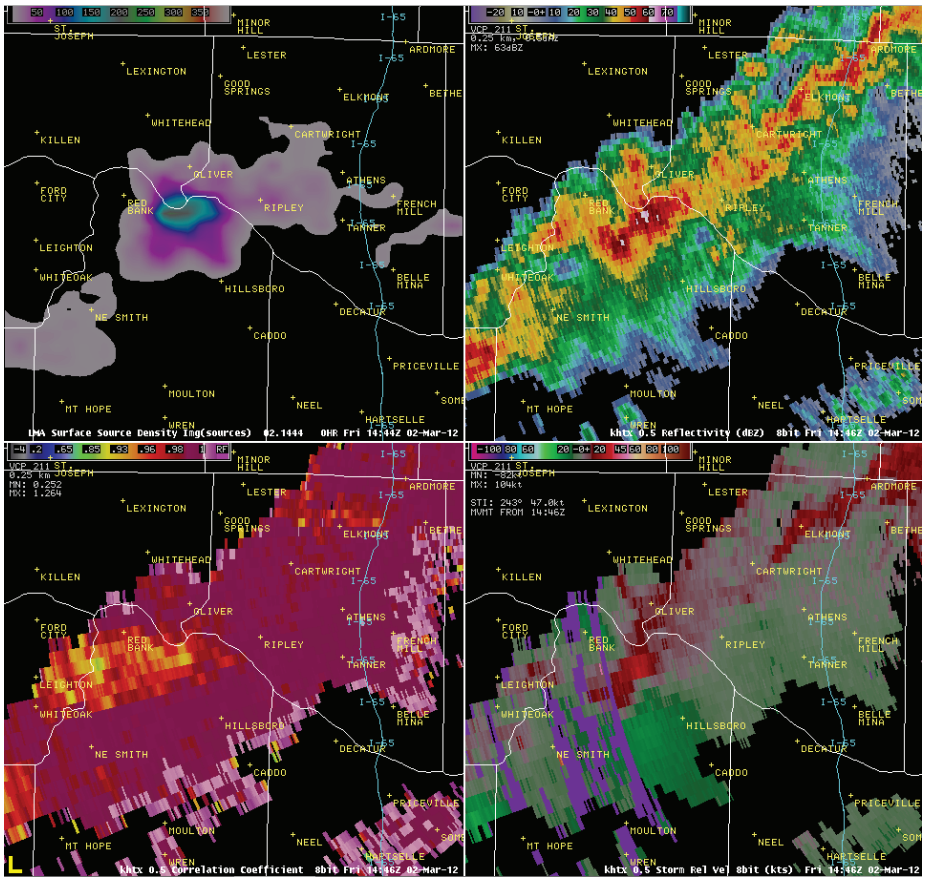

Figure 1. Four-panel AWIPS display on March 2, 2012, of portions of northern Alabama clockwise starting from the upper left: NALMA vertically integrated source density at 1444 UTC; and 0.5 KHTX reflectivity (dBZ), 0.5 SRM (kts) and 0.5 Correlation Coefficient (phv) at 1446 UTC. County lines are in white, cities in yellow and Interstate 65 is in light blue.

See LIGHTNING page 3

LIGHTNING from page 2

of cyclonic rotation and moderately low Correlation Coefficient (CC) values were also evident in northern Lawrence County. The Huntsville NWS radar (KHTX) 3.4 degree elevation scan (corresponding to about 24 kft AGL and temperatures around -20C in this area) indicated maximum reflectivity values around 55 dBZ (Figure 2, upper right), which is near the generally accepted empirical values for severe hail. While a synthesis of the data suggested that hail was present in the storm, the lack of a deep core of relatively high reflectivities and only moderately low CC values indicated that the hail was not likely at severe criteria (one inch or greater).

With radar data not yet suggesting severe hail was present, and with no severe weather reports from nearby storm spotters, a warning was not issued. However, numerical model guidance and mesoscale analyses suggested the storm was moving into a more favorable environment for storm organization, and strengthening was considered possible. The NALMA data from 1446 UTC made it clear that the storm was indeed strengthening. A sudden increase in source densities was noted (Figure 2, upper left), with maximum densities climbing to over 400 sources. This represented more than a 200 percent increase in source densities in just two minutes, indicating the increase in total lightning and inferring the strengthening updraft within the storm.

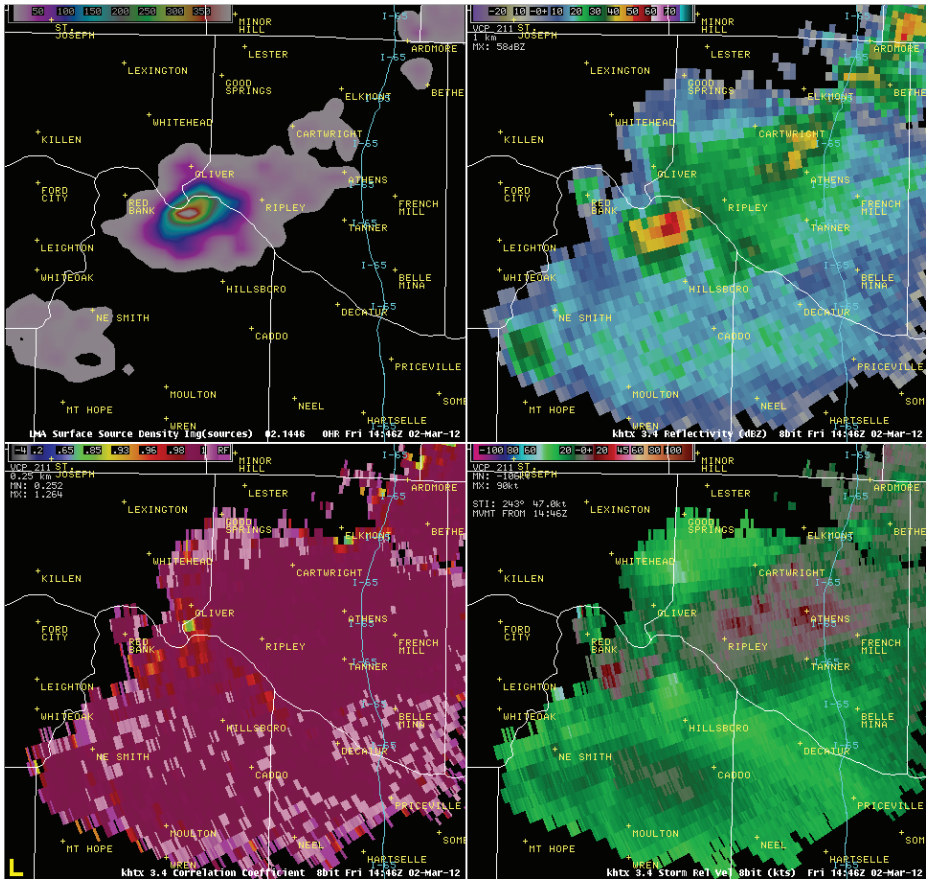

Figure 2. Clockwise from upper left: NALMA vertically integrated source density data, 3.4 degree KHTX reflectivity (dBZ), 3.4 SRM (kts) and 3.4 Correlation Coefficient (phv) all at 1446 UTC. County lines, cities and Interstate 65 are indicated as in Figure 1.

With this new information in mind and other radar data (e.g., relatively high reflectivities, and moderately low CC values) approaching the thresholds for severe weather, the forecaster issued the first severe warning of that morning at 1451 UTC. At 1505 UTC, the first severe weather report of quarter size (1 inch) hail was received at the Huntsville NWS office. As the storm moved downstream, hail the size of golf balls (1.75 inches) and 70 mph winds were reported by local law enforcement at 1512 UTC. This storm also produced a tornado in the Canebrake community just south of Athens beginning at 1510 UTC, which continued along an approximate 34 mile path through Limestone and Madison Counties, producing up to EF-3 scale damage.

Overall, the NALMA data showed the typical rapid increase in source density before the onset of severe weather, including hail, and then a decrease before the tornado developed. These data allowed for extra warning lead time in this particular situation, perhaps the full 14 minutes before the first severe weather report was received. This represented a particularly good case, in which the NALMA data served as an important decision support tool, indicating that a storm was likely to undergo rapid strengthening, and that a warning was necessary.

Students participating in Greg Carbin's Severe Weather Workshop held during the Annual Meeting's Broadcaster Meteorology Workshop. They were explaining what severe weather watches they were issuing.

The 2012 summer Storm Chase course participants standing under a wall cloud in Kingfisher, Okla.

Three Rivers NWA Chapter Quarterly News July-September 2012

California University of Pennsylvania (Cal U)

Brittany Kusniar, Secretary

CHAPTER NEWS

The members of the Three Rivers NWA Chapter did not take the summer off, but instead participated in activities that helped further their understanding of meteorology and representation of the NWA.

Storm Chase

The summer started off with a bang, literally. Twelve students, one alumnus and the chapter advisor participated in the Storm Chase course from May 21 to June 1. They traveled roughly 6,300 miles through twelve states. The participants chased nine out of the ten days available in six different states. They saw numerous wall clouds and three funnel clouds. On their journey, they met up with the research team Center for Severe Weather Research/ Radar Observations of Tornadoes and Thunderstorms Experiment (CSWR/ROTATE) and also chased with University of Illinois students and professors for a couple days. Those who were a part of this chase returned with wild stories that they were eager to tell. To follow the CSWR/ROTATE project, visit http://www.cswr.org/projects/rotate/2012/

Peer Mentoring

The chapter officers encourage membership involvement and strive to work as a team. One way this is accomplished is through members participating in Cal U's Peer Mentoring program in which there are almost 800 mentors campus-wide. Over the summer, upperclassmen are given the name of a new student in their major and are encouraged to develop a relationship with that student before the start of school. This mentor-protégé relationship makes the transition into college much easier for the new student. Our Peer Mentors also serve as tutors because the upperclassmen were once in the shoes of the protégés and understand the course work.

Internships/Research

The chapter prides itself on the work ethic and academic drive that our members have. Seven students were selected for various summer internships and one was selected for an REU (Research Experience for Undergraduates). These internships and summer research led our members to South Dakota, Florida, New Hampshire, West Virginia, Virginia and other states. Each of them will develop a presentation about their summer experience to present at chapter meetings. By doing these presentations, underclassmen can begin thinking about their interests in the field and what internship/research experience they may find themselves in one day. The students that participated in these summer programs were:

Donald Jellison Jr.: REU at the University of South Florida in Tampa, Fla., studying "The Societal Impacts of Hurricanes".

Cody Frick and Emily Timko: Internship at First Energy in Greensburg, Pa., compiling data that aids in forecasting for power outages.

See CHAPTER page 5

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Jim Nieder and Amber Hill: Internship at The Badlands National Park (Department of the Interior), S.D., compiling information for GIS maps.

Elizabeth Smith: Internship at WOWK Channel 13 in Charleston, W.Va., learning more about broadcast Meteorology.

Emanual Janisch: Internship at the Mount Washington Observatory, N.H., recording daily weather and assisting in summit operations.

David Fischer: Volunteer at the NWS Sterling Field Support Center, Sterling, Va., compiling data input and analysis for the NWS COOP program.

Elizabeth Smith was also awarded NOAA's prestigious Ernest F. Hollings Scholarship. This scholarship provides up to $8,000 in academic assistance for up to two years along with a 10-week, full-time internship position during the summer at a NOAA facility.

Educational Outreach

Educational Outreach chairman Donald Jellison was very active this summer. His passion for outreach traveled with him to his REU in Tampa, where he teamed up with members of the West Central Florida Chapter of the American Meteorological Society (AMS) by participating in an educational seminar for pre-school students. On June 28, Donald and his colleagues presented to children at the University of South Florida Pre-school for Creative Learning. He helped create experiments that mimicked weather systems, such as hurricanes and tornadoes, for the pre-school students.

After returning from his REU, Donald taught a week long session of classes from Aug. 6-10. He was hired as an instructor for the Summer Educational Enrichment for Kids (SEEK) program, where he taught two sections of "Hollywood Weather: Fact or Fiction." He instructed 16 students, grades 3-8, about the accuracy of how weather is depicted in Hollywood movie scenes. They learned about winter weather, tornadoes, hurricanes and tsunamis. Donald also introduced them to broadcast meteorology. The students were able to tour the broadcast studio at Cal U, where they participated in their own weather newscast.

Mark Your Calendars for October 12 - 17, 2013

The 38th NWA Annual Meeting will be in Charleston, S.C.

Details coming your way soon!

Social Events

To kick off the academic year, the Earth Sciences Department held its annual picnic on Sept. 9. There was good food, fun games and a lot of socializing. This picnic is a great way for students in the various Earth Science majors to meet one another. Chapter members also cheered on the Pittsburgh Pirates at a game on September 30.

Fundraising

Chapter members are busy coming up with fundraising ideas including selling candy, T-shirts, bumper stickers, Yankee Candles, having a snowfall forecasting competition, and a Community Fun Night. Another idea is to hold a Community Fun Night at Bob Evans in Washington, Pa., during which the chapter will receive 15 percent of the bill from everyone that comes to support the group. Members are looking into doing this Community Fun Night at other restaurants closer to campus as well.

Workshops/Conferences

On Sept. 28, chapter members attended the second annual Integrated Warning Team Workshop in Fairmont, W.Va. The workshop was once again co-hosted by Cal U and the NWS in Pittsburgh. This year's theme was "Building a Weather Ready Nation." The workshop featured presentations from professionals in meteorology, hydrology, emergency management and more. The goal and initiative of this workshop was that emergency managers, first responders, government officials, businesses and the public would be empowered to make fast, smart decisions to save lives and livelihoods. The NWS is transforming its operations to help America respond.

Twelve student members of the chapter were selected to attend the 37th NWA Annual Meeting in Madison, Wis. Students were required to submit a cover letter and resume to the chapter advisor in order to be eligible for selection. The competition was fierce this year with a total of 24 applications. Student members Ryan Adams, David Fischer, Michael Hackenberg, and Donald Jellison presented posters summarizing various research projects they have completed over the past year.

StormFest

The chapter is preparing for the sixth annual StormFest at the Carnegie Science Center, scheduled for Feb. 15-16, 2013. Elementary and middle schools from the Pittsburgh area come to the science center where the chapter sets up tables with various activities to teach them about the earth sciences. In the past, this event has been a huge success and event coordinator, Elizabeth Smith, is working hard to ensure that the 2013 StormFest will run just as well.

New NWA Members from September 2012

Regular/Military/Retired

Philip Ardanuy
Ashley Boy
Calvin Elkins
Katie Ferrier
David Hogan
Ethan Huston
Susan Jasko
Dmitriy Kirilyuk
Alex Liggitt
Albert Martinez Bover
Blake Mathews
Betty Morrow
Ralph Petersen
Michael Scott
Christopher Simmons
Fred Svetz
Lance Tripoli
Michael Van Tress
Matthew Wolf

Students

Jason Apke
Jeremy Berman
Adam Brainard
Jason Brand
Carissa Bunge
Anthony Chandler
Gabrielle Deabler
Jason Dohoda
Jason Frazier
Deanna Gaudreau
Victor Gensini
Duncan Gifford
Sarah Grana
Alexandria Grimes
Thomas Hafer
Cassandra Hansen
Kevin Hill
Nicole Hoban
Andrew Kalin
Matthew Kaminski
Agnes Lim
William Line
Damon Matson
Mackenzie Morris
Sara Purdue
Kristopher Rand
David Stefl
John Troutman
Max Tsaparis
Sean Viale
Pei Wang
Dawn Wedig

NWA SPEED MENTORING EVENT LINKS STUDENTS, PROFESSIONALS

Michael Page
Penn State University Undergraduate in Meteorology
Membership and Marketing Committee Student Member

In an effort to link students with successful professional meteorologists, a Membership and Marketing Committee Tiger Team led by Penn State student Michael Page organized a Speed Mentoring event at this year's Annual Meeting student session. The event built on the success of past student mentoring events at both the 2010 and 2011 Annual Meetings.

Facilitator Ken Carey kicked off the event by explaining the importance of mentoring and networking to the dozens of students in attendance. The students were then introduced to the 14 mentors invited to take part in the event. The goal was to include mentors from all sectors of meteorology. An effort was also made to include both young and seasoned professionals. This year's mentors included: Wendy Abshire, Matthew Alto, Bob Baron, Faith Borden, Janice Bunting, Ken Carey, Christina Crowe, Chad Gravelle, Kevin Lavin, Trisha Palmer, John Scala, Alan Sealls, Keith Stellman and Cathy Zapotocny.

Following brief introductions, mentors were divided into seven teams of two and dispersed to different parts of the room. Students were then divided into groups of three to five and sent to a mentor team.

Each group of students spent 10-12 minutes with each team of mentors. Mentors were asked to share a little about their background before fielding questions from students. Many students asked about ways to break into the National Weather Service or whether graduate school was the best option. A key benefit of the event is that each group had a different personality, making each discussion a little different. After that 10-12 minute meeting, students moved on to the next group of mentors. The event lasted just under two hours.

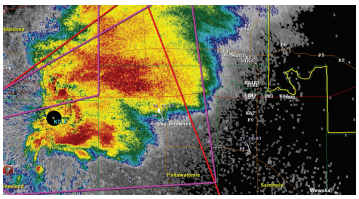
In addition to the Speed Mentoring, sudent participated in a DVD swap at the Annual Meeting in Madison.

Speaking to many students and mentors after the event, it seemed most enjoyed the concept of Speed Mentoring. Students remarked that it was helpful to meet so many distinguished professionals in such a short amount of time. Many felt they would not have had the opportunity to meet and speak with professionals without an organized mentoring event. While some groups were more talkative than others, most mentors reported that students felt comfortable asking questions and sparking discussion, which was a primary goal of the event.

The hope is that this event can be continued, and improved upon, in the future.

New Article in EJOM on Communications Between Research and Warning Operations

Submitted by Michael Brennan, EJOM Editor
National Hurricane Center



Please see larger graphic and its caption on page 1.

A new paper has been published in the NWA Electronic Journal of Operational Meteorology: 2012-EJ8, "The NWS and VORTEX2: Facilitating Real-Time Communication between Research and Warning Operations" by James K. Purpura of NWS San Diego, Calif., Steven Cobb of NWS Lubbock, Texas, Patrick T. Marsh of National Severe Storms Laboratory (NSSL) and CIMMS in Norman, Okla., and Michael J. Hudson of NWS Kansas City, Mo.

The article discusses a new concept in linking NOAA research and NWS operations in real-time during the 2009 and 2010 spring projects for the second Verification of the Origins of Rotation in Tornadoes Experiment (VORTEX2 or V2). Primarily using a chat client known as NWSChat, NWS operational meteorologists relayed information from the V2 field project to NWS warning forecasters at their field offices to aid the warning decision process. The NWS field offices in turn were able to relay severe storm spotter reports to the V2 armada near the storms. It is hoped that future projects can build upon this success to strengthen the ties between research and operations.

PROFESSIONAL DEVELOPMENT

2013 NWA sponsored Annual Meetings, Conferences and Special Events

March 2: 2013 National Storm Conference

This free conference sponsored by the Texas Severe Storms Association (TESSA) will be held at the Coleyville Center in Coleyville, Texas. Open to the public; registration not required but seating is limited. http://www.tessa.org

March 8-10: The 38th Annual Northeastern Storm Conference

Sponsored by the Lyndon State College AMS/NWA local chapter, this annual conference will be held at the Holiday Inn in Rutland, Vt. https://sites.google.com/site/lyndonstateamsnwa/

April 4-6: The 17th Annual Severe Storms and Doppler Radar Conference

Sponsored by the Central Iowa NWA Chapter in Ankeny, Iowa. http://www.iowa-nwa.com/

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

Meeting will be in Charleston, S.C. at the North Charleston South Carolina Convention Center with the meeting hotel being the Embassy Suites located next door. Details to follow; call for Abstracts is expected in late January.

Other Meetings, Conferences and Special Events

Oct. 31-Nov. 1: The 14th Northeast Regional Operational Workshop (NROW)

This annual conference will be held at the CSTEM Auditorium, on the University at Albany Campus, Albany, N.Y. http://www.erh.noaa.gov/aly/NROW/nrow14.htm

Jan. 6-10: 93rd American Meteorological Society Annual Meeting

Meeting will be held in Austin, Texas. http://annual.ametsoc.org/2013/?CFID=12137&CFTOKEN=14711286

March 25-28: The National Hurricane Conference

This Annual Conference will be held at the Hilton New Orleans Riverside in New Orleans, La. Details to follow. http://www.hurricanemeeting.com/

April 8–12: NOAA Satellite Conference for Direct Readout, GOES/POES, and GOES-R/JPSS Users

This conference will be held in Miami, Fla. http://satelliteconferences.noaa.gov/Miami2013

April 17-24: The National Tropical Weather Conference

This professional conference for Broadcast Meteorologists will be at the Isla Grand Resort on Padre Island, Texas. The theme is "Tropical Systems: Preparing for the Storm." Attendees will have the opportunity to enhance their knowledge of tropical systems with educational sessions on tropical forecasting, using social media, flying with the hurricane hunters and more. The conference will include all former directors of the National Hurricane Center.
Like its Facebook page: https://www.facebook.com/NationalTropicalWxConference
http://www.hurricanecenterlive.com

A Show of Strength for President Liz

The attendees show their respect and give a huge cyber hello to President Liz Quoetone during the Awards Luncheon.

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IMPORTANT DATES

Jan. 6 -10: 93rd American Meteorological Society Annual Meeting, Austin, Texas

March 2: 2013 National Storm Conference, Coleyville, Texas

March 8 - 10: 38th Northeastern Storm Conference, Rutland, Vt.

April 4 - 6: 17th Annual Severe Storms and Doppler Radar Conf., Ankeny, Iowa

Oct. 12 - 17: 38th NWA Annual Meeting, Charleston, S.C.

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