



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

No. 14 – 8

# Newsletter AUGUST

2014

## 39th NWA ANNUAL MEETING

Sheraton, Salt Lake City, Utah: 18–23 October 2014

See the [main meeting page](#) for information on the meeting hotel, exhibits, sponsorships, attendee registration requirements, social media connections and more. Authors/Presenters, please inform the Program Committee at [annualmeeting@nwas.org](mailto:annualmeeting@nwas.org) of any corrections or changes required in the listing of your presentations or abstracts as soon as possible.

Instructions for forwarding your PowerPoint slides, extended abstracts and posters via ftp will be forthcoming. This agenda will be updated periodically as changes occur. Links to abstracts will be added soon. All activities will be held in the Sheraton Salt Lake City Hotel unless otherwise noted. All attendees should check in at the NWA Registration and Information Desk as soon as possible upon arriving at the Sheraton Hotel to obtain nametags, the latest program and scheduling information and to register, if not already preregistered.

*Please note that this is a preliminary agenda and that changes will occur to the program prior to the meeting. The agenda will likely be updated every 1-2 weeks with any needed changes. Please check back regularly for any modifications that may impact your presentation time, room, etc.*

### Saturday – 18 October

- 10:00 AM Aviation Weather Safety Seminar: Aviation Weather in the Intermountain West  
*The NWA Aviation Meteorology Committee invites all to attend this valuable seminar which is specifically designed for pilots who fly in the Intermountain West.*  
Kibbie Executive Terminal, First floor training room (from 10 a.m. - 1 p.m.)  
337 N 2270 W, Salt Lake City, UT 84116  
Speakers include:  
Terry Lankford, FSS Specialist (retired), Murphys, CA  
Christine Kruse, NOAA/NWS, Salt Lake City, UT  
Sarah Rogowski, NOAA/NWS/CWSU, Salt Lake City, UT
- 11:00 AM NWA 12th Annual Scholarship Golf Outing, Stonebridge Golf Course, West Valley City, UT (lunch at 11 a.m.; tee-off at 12:30 p.m.)  
*Sponsored by Baron Services*  
Contact Betsy Kling, [betsykling@wkyc.com](mailto:betsykling@wkyc.com) for information or to sign-up.
- 12:00 PM Exhibit Hall Setup
- 12:00 PM Registration and Information Desk Opens (closes at 7:00 PM)

*Theme: “Building a 21st Century  
Weather Enterprise: Facilitating  
Research to Operations –  
Optimizing Communication  
and Response.”*



*The Utah State Capital building and Mormon  
Battalion Monument, Salt Lake City*

### 2014 NWA Scholarship Golf Outing

Presented by: **BARON**

**Saturday, October 18**

**Stonebridge Golf Course**

10 minutes from the airport  
12 minutes from the Sheraton

**11 AM lunch / 12:30PM start**

**\$95 per player**

Includes lunch, range, cart, golf & donation



Contact Betsy Kling for info and reservations  
[betsykling@wkyc.com](mailto:betsykling@wkyc.com)

## INSIDE THIS EDITION

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Professional Development Opportunities will  
return next month. [Click here for current events.](#)

## Sunday – 19 October

- 7:00 AM Registration and Information Desk Opens (Closes at 6:00 PM)  
 8:30 AM Broadcast Meteorology Workshop  
 9:00 AM Exhibits Open (Close at 6:00 PM)  
 12:00 PM Seventh Annual Student Session

### Broadcast Meteorology Workshop

- 8:30 AM **B1.0 Welcoming Remarks**  
*Jeffrey Craven*, NWA President,  
 NOAA/NWS, Milwaukee/Sullivan, WI

- 8:35 AM **B1.1 Opening Remarks**  
*Miles Muzio*, NWA Broadcast  
 Meteorology Committee Chair &  
 KBAK-TV Bakersfield, CA  
*Mike Goldberg*, NWA Broadcast  
 Meteorology Workshop Chair &  
 WTVR-TV, Richmond, VA

- 8:45 AM **B1.2 Welcome to Salt Lake City**

- 9:00 AM **B1.3 Storm Prediction Center Risk  
 Communication: Recent Changes  
 and Future Plans**  
*William Bunting*, NOAA/NWS/SPC,  
 Norman, OK

- 9:15 AM **B1.4 Outlook and Warning Method-  
 ologies for the 28 April 2014  
 Tornado Outbreak**  
*Alan Gerard*, NWA Past President  
 ('07), NOAA/NWS, Jackson, MS

- 9:30 AM **B1.5 Advanced Tornado Safety  
 Planning**  
*Richard Smith*, NOAA/NWS,  
 Norman, OK

- 9:45 AM **B1.6 A Comparative Evaluation of  
 Weather Graphics and Their Effect  
 on Severe Weather Decision Making**  
*Megan McClellan*, KTEN-TV,  
 Denison, TX  
*Laura Mock*, WHSV-TV,  
 Harrisonburg, VA

- 10:00 AM Coffee Break. Exhibits Open

- 10:30 AM **B2.1 Societal and Government  
 Response to the 28 January 2014  
 Winter Storm.** i.e. Atlanta SnowJam  
*Keith Stellman*, NOAA/NWS,  
 Peachtree City, GA

- 10:45 AM **B2.2 Winter Weather Workshop**

- 11:45 AM **B2.3 Climate Central Luncheon  
 Preview**  
*Bernadette Woods*, Climate Central,  
 Princeton, NJ

- 12:00 PM Lunch on your own

- 1:30 PM **B3.1 A Review of Significant  
 Weather Events Occurring in 2014**  
*Greg Carbin*, NOAA/NWS/SPC,  
 Norman, OK

- 2:00 PM **B3.2 Potential Links Between Global  
 and Regional Tropical Cyclone  
 Trends and Climate Change**  
*H. Michael Mogil*, How the  
 WeatherWorks, Naples, FL

- 2:15 PM **B3.3 2017: The Sun Will Darken**  
*Joe Rao*, News 12 Westchester,  
 Westchester, NY

- 2:30 PM **B3.4 Easy and Quick Way to Show  
 Viewers You Are THE Go-To Science  
 Broadcaster in Your Market**  
*Joe Witte*, NASA, Greenbelt, MD

- 2:45 PM **B3.5 Broadcast Weather: Effective  
 Messaging in the Evolving Multi-  
 Media Landscape**  
*Nate Johnson*, WRAL-TV, Raleigh, NC

- 3:00 PM Coffee Break. Exhibits Open

- 3:30 PM **B4.1 Social Media Workshop**  
*Led by Frank Alsheimer*, NWA 2013  
 Annual Meeting Program Chair,  
 NOAA/NWS, Charleston, SC

- 5:00 PM Announcements/Dinner on your own

- 7:00 PM **DVD Swap**  
*Miles Muzio*, NWA Broadcast  
 Meteorology Committee Chair &  
 KBAK-TV, Bakersfield, CA  
*Chris Dunn*, NWA Broadcast Seal of  
 Approval Committee Chair &  
 KPHO-TV, Phoenix, AZ

- 8:30 PM **Student DVD Critique**  
*Mike Goldberg*, NWA Broadcast  
 Meteorology Workshop Chair &  
 WTVR-TV, Richmond, VA

### Student Session

- 12:00 PM **S1.0 Welcoming Remarks and  
 Introduction**  
*Janice Bunting*, NWA Executive  
 Director, Norman, OK  
*Jeff Craven*, NWA  
 President, NOAA/WS, Milwaukee/  
 Sullivan,  
*Randy Graham*, NWA 2014 Annual  
 Meeting Program Chair, NOAA/NWS,  
 Salt Lake City, UT

- 12:10 PM **S1.1 Government Careers**

- 12:20 PM **S1.2 Broadcasting Careers**

- 12:30 PM **S1.3 Private Sector Careers**

- 12:40 PM **S1.4 Grad School and Academic  
 Careers**

- 12:50 PM **S1.5 Career Track Panel Discussion**

- 1:30 PM **S1.6 Social Media Workshop  
 Facilitated by NWA Social Media  
 Committee Members**  
*Tim S. Brice*, NWS, El Paso, TX  
*Rick Smith*, NWS, Norman, OK  
*Trevor M. Boucher*, NWS, Nashville,  
 TN

- 2:15 PM Break

- 2:45 PM **S1.8 Communication Workshop**  
*Susan Jasko*, California University of  
 Pennsylvania, California, PA  
*Nate Johnson*, WRAL-TV/NC State  
 University, Raleigh, NC

- 3:30 PM **S1.9 Speed Mentoring**  
 Facilitated by:  
*Chad M. Gravelle*, NOAA/NWS/  
 Operations Proving Ground, Kansas  
 City, MO and Ad Hoc NWA  
 Mentoring Committee

- 5:00 PM Dinner on your own

- 6:30 PM **S1.10 Severe Weather  
 Forecasting Master Class**  
 Facilitated by: *Marc Singer*, NOAA/  
 NWS, Billings, MT  
*Chad M. Gravelle*, NOAA/NWS/  
 Operations Proving Ground, Kansas  
 City, MO  
*Darren Van Cleave*, NOAA/NWS,  
 Missoula, MT

- 8:00 PM Break

- 8:30 PM **S1.11 Student DVD Critique**  
 Facilitated by: *Mike Goldberg*, NWA  
 Councilor, NWA Broadcast  
 Meteorology Workshop Chair and  
 WTVR-TV, Richmond, VA

## Monday – 20 October

### General Session

- 7:00 AM Registration and Information Desk  
 Opens (Closes at 4:00 PM)  
 9:00 AM Exhibits Open (Close at 6:00 PM)  
 11:45 AM Weather Briefing and NWA  
 Announcements

- 2:15 PM Poster Session I

- 6:00 PM Icebreaker: Leonardo – A  
 Contemporary Museum for Science  
 and Culture

- 8:00 PM Broadcasters Dinner  
 Sponsored by Ski Utah

### Session A1 – Building a 21st Century Weather Enterprise

- 8:00 AM **Opening Remarks**  
*Janice Bunting*, NWA Executive  
 Director, Norman, OK  
*Jeff Craven*, NWA President,  
 NWS, Milwaukee/Sullivan, WI  
*Randy Graham*, NWA 2014 Annual  
 Meeting Program Chair, NOAA/NWS,  
 Salt Lake City, UT

- 8:15 AM **A1.0 Keynote Address - Weather,  
 Climate, and WATER: How NWS and  
 NOS Are Partnering to Improve  
 Services**  
*Dr. Louis Uccellini*, Assistant  
 Administrator for Weather Services,  
 NOAA, NWS  
*Dr. Holly Bamford*, Assistant  
 Administrator for National Ocean  
 Service, NOAA



# Where there's smoke, there are Decision Support Services

Jeff Craven, NWA President

As we focus more and more on decision support services in the NWS, we must remind ourselves of how the business model elsewhere in the Weather Enterprise has developed this way of operating for many years. Early in my career at AccuWeather, Inc., we provided information



(Courtesy NIFC) you know, time is money, so the accuracy of these forecasts was critical in making the right decisions when balancing safety and profit.

Although I have less experience with decision support services surrounding fire weather forecasts, it is clear that there are a number of important resource and safety issues in this field. Fire-weather planning forecasts and spot forecasts for wildfires and controlled burns provide critical information about relative humidity and winds. These forecasts can be provided to decision makers remotely, both on a routine basis and by request. On-site incident meteorologists, aka IMETS, provide crucial and specialized decision support services that are unique in our field. Just like we see with the Center Weather Service Units and the Air Route Traffic Control Centers, IMETs can be integrated into the incident command structure (ICS) and provide a specialized forecast on a moment's notice right where the action is taking place.

The nexus of fire weather is the [National Interagency Fire Center](#). They are the interface between those who prepare for, respond to, and provide support for wildfires. There is a wealth of preparedness and education information to be found on this website and weather support is just a small part of the equation. But naturally that is what I am focusing on in this article.

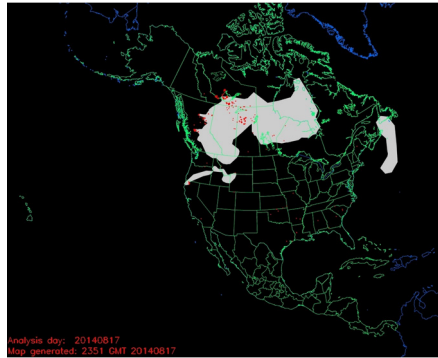
There are many exciting new satellite techniques emerging to track severe storms and heavy precipitation events. Fire weather is no different, and the technology permits detection and tracking of new fires along with monitoring of smoke plumes and their potential impact on air quality. Among many groups working on this important problem, the Cooperative Institute for Meteorological Satellite Studies in Madison, Wisconsin, dedicates an [entire weather blog to fire detection](#). Some of the same channels used in detection of low clouds and fog are harnessed to find the hot spots of fires. Large fires with their associated high heat can often saturate entire 2-4 km resolution pixels with 50+ C radiance temperatures on satellites. This is obviously a critical tool for fire weather forecasters in the Weather Enterprise and for IMETs on location.

The U.S. Department of Agriculture Forest Service has links to many satellite-based fire monitoring products from polar and geosta-

tionary orbiting instruments. [They produce maps](#) of active wildfires across the US along with the names of the fire complex or incident. Similar products are generated for all of North America by the National Environmental Satellite, Data, and [Information Service Satellite Services Division](#). They have a fire mapping system and smoke products like the example below, which combines the active fires with large plumes of associated smoke. Tracking these plumes is critical for downstream air quality, visibility, and even temperature forecasts.

Although I have concentrated on satellite technology thus far, obviously there are many ways to collect critical temperature, wind and relative humidity data. The image above shows an Incident Remote Automated Weather Station (IRAWS) deployment near a large fire. There is also a large network of RAWS that provide permanent mesonet observations dedicated to fire weather purposes. Although the World Meteorological Organization standard for surface wind measurements is 10 m or roughly 33 ft above ground level, RAWS sites record winds at 6 m or roughly 20 ft.

The technology is great, and the tools are amazing. But ultimately this all has to be communicated to the decision makers. That is where IMETs like John Saltenberger come in. Not only is John a fellow San Jose State University alumnus (Go Spartans!), he has also



*Hazard Mapping System Current Fire and Smoke Analysis from August 17, 2014 (Courtesy NOAA).*



*IRAWS near a large fire (Courtesy NIFC).*



*John Saltenberger (IMET) conducting an on-site fire weather briefing.*

created a nice fire weather page on our [NWA website](#). This is a great resource about his background, experience, and what it takes to get the skills and knowledge needed to become an IMET. He provides a lot of information on what forecast elements and services are critical to support fire weather. The forecasts must be communicated clearly to the decision makers by someone they understand and trust. So, building relationships is just as important as keeping your scientific skill set honed as a professional meteorologist.

Finally, how could we write any weather article in this day and age without talking about the impact of social media. There is a [Facebook page dedicated to IMETs](#). On Twitter, consider following @BLMNIFC, @NWS\_IMET\_OPS, and @forestservice. It is truly staggering how much information there is and the many ways that we can communicate fire weather information. Each decision maker prefers to receive information in a different format, so we must strive to continually harness diverse communication streams to get the message out. That said, it is clear

that there will always be a place for the human touch. For some customers, reading a forecast or seeing a graphic will not take the place of interacting with a trusted consultant in person or over the phone.

## NWA Women in Meteorology Luncheon

Christina Crowe (NWA Weather Analysis and Forecasting Committee Chair) and  
Trisha Palmer (NWA Professional Development Committee)

Several years ago at an Annual Meeting, I asked a mentor if he knew of any female meteorologists at the conference to whom he could introduce me. I was curious to learn about their career paths or their experiences as a woman in our field. What shocked me was that it took most of the coffee break for him to come up with even one or two names of women attending the conference. That feeling of shock remained with me over the following months and years, even as I gradually met more women at conferences and through various projects. Then, nearing the end of the 2011 Annual Meeting in Birmingham, a few of us realized that this was a common problem for female meteorologists. We had all experienced the difficulty of developing a support network of women who could provide context or support for challenges we face.

It should come as no surprise that women are underrepresented in our field. The American Geosciences Institute indicated that the percentage of bachelor's degrees awarded to women in atmospheric sciences has [hovered between 30-35 percent for the past several years](#), with master's degrees also ranging between 30-40 percent, and doctorate degrees averaging near 30 percent. However, statistics from 2012 for the NWS showed that compared to the civilian workforce, where women represent almost half (46.8 percent) of all private industry professions, representation of women in the NWS is just below 20 percent. Specifically for meteorology, women represent just under 14 percent of the NWS workforce. Hydrology and general physics occupations had a higher percentage between 20 and 25 percent. Holmes et al. (2003) showed that women make up only 10 percent of atmospheric science faculty at doctorate-granting institutions, and a survey of academic AMS members from Tucker et al. (2009) was only slightly higher, with women representing 12 percent of tenure-track faculty (the percentage of women in post-doctoral positions is significantly higher at 29 percent). In a survey of broadcast AMS members, Reynolds et al. (2008) determined that overall, women in broadcast meteorology make up 19 percent of the workforce, with higher percentages in larger markets.

These data then beg the question: if women make up 30-40 percent of the degrees awarded, but only 10-20 percent of the meteorological workforce, what is happening to the other 20 percent? In past studies on women in science, technology, engineering and mathematics (STEM) careers, isolation and exclusion from informal communica-

tion and support networks have been identified as some of the key factors that stall women's mobility and take a toll on their career and job satisfaction (Fouad et al. 2012). Kellerman and Rhode (2007) point out that favoritism is apparent in informal networking because people tend to feel more comfortable with those who are similar to them in

important characteristics, such as gender or race. This is a challenge for women in traditionally male-dominated fields, where female leaders are limited in number and there are too few men who are comfortable filling the gaps. This can cause women to miss out on advice and professional development opportunities. The challenge that meteorologists encounter, possibly more so than our STEM counterparts, is that members of our community are spread across the country, reducing the chance for connections among the small number of women in the workforce. So we proposed the idea that developing a formal

event through NWA, focusing on discussion and interactions, could help supplement this need and perhaps facilitate change.

The First Annual NWA Women in Meteorology (WiM) Luncheon was held during the 2012 Annual Meeting in Madison, Wisconsin. Despite budget-oriented travel restrictions for NWS meteorologists, the room was packed! As a conversation-starter, we focused on a theme of "The Importance of Networking and PIE", where PIE means Performance/Image/Exposure, [with theme-related handouts](#). We designated facilitators for each table to keep the conversations going, and seated

the approximately 50 attendees randomly to maximize networking. It was a huge success! We planned our [Second Annual WiM Luncheon](#) for the 2013 Annual Meeting in Charleston, South Carolina, with the theme of "Leaning In" as advocated in the book by Sheryl Sandberg, the Chief Operating Officer of Facebook. Budget difficulties again precluded attendance from several sectors, but still around 50 ladies came. Based on feedback from the 2012 WiM lunch, we seated the 2013 lunch by sector,

recognizing that challenges faced by women in research/academia/broadcast/private industry/military/NWS are not all the same. The response was overwhelmingly positive! We are in the process of planning the Third Annual WiM Luncheon for Salt Lake City, Utah. We are planning for 75 attendees, hoping we can have more attendance from all sectors.



*Figure Caption: Attendees at the Second Annual Women in Meteorology luncheon.*

### References

- [Fouad, N. A., R. Singh, M. E. Fitzpatrick, and J. P. Liu, 2012: Stemming the Tide: Why Women Leave Engineering. University of Wisconsin-Milwaukee, 64 pp.](#)
- Holmes, M. A., S. O'Connell, C. Frey, and L. K. Ongley, 2003: Academic specialties in U.S. are shifting; hiring of women geoscientists is stagnating. *Eos Trans. AGU*, 84 (43), 457-461.
- Kellerman, B. and D. L. Rhode, 2007: *Women and Leadership: The State of Play and Strategies for Change*. Jossey-Bass, 528 pp.
- Reynolds, M., K. Strebe, and A. Monzon, 2008: The broadcast meteorology employment field. *Bull. Amer. Meteor. Soc.*, 89 (8), 1186-1188.
- Tucker, D., D. K. Ginther, and J. A. Winkler, 2009: Gender issues among academic AMS members: comparisons with the 1993 membership survey. *Bull. Amer. Meteor. Soc.*, 90 (8), 1180-1191.

*See Luncheon, page 5*



**9:15 AM A1.1 NOAA Weather-Ready Nation Update and Plans for the Future**  
*Christopher Strager, Director, NOAA/ NWS Central Region Headquarters, Kansas City, MO*  
*Kevin Scharfenberg, Douglas Hilderbrand and Wendy Marie Thomas, NOAA/NWS, Silver Spring, MD*

9:30 AM Coffee Break; Exhibits Open

**Session A2 - Special Session: Improving Communication and Societal Response - Lessons Learned from the Southeast U.S. Winter Storm of 28 Jan 2014**

**10:00 AM A2.0 Climatological Perspective and Historical Significance of the 28 January 2014 Southeast Winter Storm**  
*Keith M. Stellman, Steven E. Nelson, Trisha D. Palmer, Alexander R. Gibbs, Jason T. Deese, NOAA/NWS, Peachtree City, GA*

**10:15 AM A2.1 Decision Support Services and Internal Preparedness Activities**  
*Keith M. Stellman, Steven E. Nelson, Trisha D. Palmer, Alexander R. Gibbs and Jason T. Deese, NOAA/NWS, Peachtree City, GA*

**10:30 AM A2.2 Media Perspective**

**10:45 AM A2.3 Event and Impacts, Service and Response: The User Perspective**

**11:00 AM A2.4 The Public's Reliance on Warnings and Directives: A Case Study of the January 28, 2014 Winter Weather Events in Alabama and Georgia**  
*Laura B. Myers, University of Alabama, Tuscaloosa, AL*  
*Vankita Brown, NOAA/NWS, Silver Spring, MD*  
*Jennifer Henderson, Virginia Tech, Blacksburg, VA*  
*Susan Jasko, California University of Pennsylvania, California, PA*

**11:15 AM A2.5 Panel Discussion**  
*Moderator - John Scala: NWA Treasurer, NWA Past President ('08), WGAL-TV Meteorologist, Lancaster, PA*  
*Panel - Keith M. Stellman, NOAA/ NWS, Peachtree City, GA*  
*Jim Cantore, The Weather Company, Atlanta, GA*  
*Laura B. Myers, University of Alabama, Tuscaloosa, AL*

**11:45 AM Weather Briefing and NWA Announcements**

11:50 AM Lunch on your own; Exhibits open

**11:50 AM Sponsored Broadcaster Lunch - Climate Central**

**Session A3 - Winter Weather I**

**1:15 PM A3.0 An Investigation of Ice-to-Liquid Ratios in Varying Conditions during Freezing Rain Events**  
*Brian L. Barjenbruch and Kristopher J. Sanders, NOAA/NWS, Topeka, KS*

**1:30 PM A3.1 The OWLeS Orographic (O2) Field Campaign: Adventures in Intense Snowstorms on the Tug Hill Plateau**  
*W. James Steenburgh, Leah S. Campbell, Peter G. Veals, University of Utah, Salt Lake City, UT*  
*Justin Minder and Ted Letcher, State University of New York at Albany, Albany, NY*

**1:45 PM A3.2 Climatological Characteristics and Orographic Enhancement of Lake-Effect storms over eastern Lake Ontario and the Tug Hill Plateau**  
*Peter G. Veals and W. James Steenburgh, University of Utah, Salt Lake City, UT*

**2:00 PM A3.3 The Uber Jet and Widespread Disruptive Ice Storm of 21-23 December 2013**  
*Lance F. Bosart, Alicia M. Bentley, Philippe P. Papin, Atmospheric and Environmental Sciences/University at Albany, Albany, NY*

**Session P1 - Poster Session I**

2:15 PM Poster Session and Exhibits (and Break)

**Session A4 - Radar I (concurrent)**

**3:45 PM A4.0 Impacts of Phased Array Radar Data on the Forecaster Warning Decision Process during Severe Hail and Wind Events**

*Katie A. Bowden, OU Cooperative Institute for Mesoscale Meteorological Studies, OU School of Meteorology, Norman, OK*  
*Pamela L. Heinselman, NOAA National Severe Storms Laboratory, Norman, OK*  
*Darrel Kingfield, OU Cooperative Institute for Mesoscale Meteorological Studies, NOAA National Severe Storms Laboratory, Norman, OK*  
*Rick Thomas, Department of Psychology, University of Oklahoma, Norman, OK*

**4:00 PM A4.1 Dual-Pol Radar and Precipitation Type during a Central Indiana Winter Storm**  
*Daniel W. McCarthy and Chad E. Swain, NOAA/NWS, Indianapolis, IN*

**4:15 PM A4.2 The Multiple-Radar / Multiple-Sensor Severe Weather Products Best Practices Experiment in the HWT**  
*Gregory J. Stumpf, University of Oklahoma/CIMMS, Norman, OK*  
*James G. LaDue and Robert A. Prentice, NOAA/NWS/WDTB, Norman, OK*  
*Matthew S. Elliott and Darrel M. Kingfield, University of Oklahoma/CIMMS, Norman, OK*

**4:30 PM A4.3 Finescale Orographic Precipitation Variability and Gap-Filling Radar Potential in Little Cottonwood Canyon, Utah**  
*Leah S. Campbell and W. James Steenburgh, University of Utah, Salt Lake City, UT*

**4:45 PM A4.4 Various Reflectivity-based Hail Size Techniques Compared to High Resolution Hail Reports**  
*Kiel L. Ortega, OU/CIMMS NOAA/OAR/NSSL, Norman, OK*

**Session A5 - Communication and Response (concurrent)**

**3:45 PM A5.0 A Comparison of Two Significant Severe Weather Events: Communication Strategies and Public Response Surrounding the 20 and 31 May, 2013 Central Oklahoma Tornadoes**  
*Marcus D. Austin, Matthew Day, Michael Scotten and Jonathan Kurtz, NOAA/NWS, Norman, OK*

**Luncheon from page 4**

The lunch is not intended to be a mentoring session or some special way for only females to have access to career growth and job potential. Anyone is welcome to attend, but the main objective is for networking and discussion of challenges inherent in being a female meteorologist. Also, attendance is reserved on a first-come, first-served basis when you pre-register for the conference. We are hoping to identify a sponsor for the lunch, but until one is secured, anyone interested in attending should expect that the meal will cost \$25-\$30. Along those lines, if there are any corporations or businesses interested in sponsoring the lunch, please contact Janice Bunting, NWA Executive Director. We look forward to seeing you in Salt Lake City.

**4:00 PM A5.1 Drivers' Awareness of and Response to Two Significant Winter Storms Impacting Utah's Wasatch Front and the Correlation of Weather to Road Impacts During the Winter of 2012-13**

*Kevin M. Barjenbruch*, NWA Societal Impacts of Weather and Climate Committee

Chair, NOAA/NWS, Salt Lake City, UT

*Carol M. Werner*, The University of Utah, Salt Lake City, UT

*Randy A. Graham*, NWA 2014 Annual Meeting Program Chair, NOAA/NWS, Salt Lake City, UT

*Cody D. Oppermann* and *Jeff A. Williams*, Utah Department of Transportation, Salt Lake City, UT

*Justin P. Connolly*, NorthWest Weather-net, Salt Lake City, UT

*Glen A Merrill*, NOAA/NWS, Salt Lake City, UT

*Glenn Blackwelder*, Utah Department of Transportation, Traffic Operations Center, Salt Lake City, UT

*Scott T. Jensen*, NorthWest Weather-net, Salt Lake City, UT

**4:15 PM A5.2 Expressing "Certainty" in Weather Forecasts and Briefings**

*Jennifer McNatt* and *Mark J. Wiley*, NOAA/NWS/Southern Region Headquarters, Fort Worth, TX

**4:30 PM A5.3 Weather Messaging in the Evolving Multi-Media Landscape**

*Susan Jasko*, California University of Pennsylvania, California, PA

*Nate Johnson*, WRAL-TV/NC State University, Raleigh, NC

**4:45 PM A5.4 Improving Decision Support Services through Effective GIS-Based Graphics**

*Darren Van Cleave*, NOAA/NWS, Missoula, MT

*Tom Dang*, NOAA/NWS, Sacramento, CA

*Matt Solum*, NOAA/NWS/Western Region Headquarters, Salt Lake City, UT

*William Rasch*, NOAA/NWS, Sacramento, CA

*Chad Kahler*, *Mark Loeffelbein*, *Leslie Wanek* and *Scott Carpenter*, NOAA/NWS/Western Region Headquarters, Salt Lake City, UT

5:00 PM Session Ends

**6:00 PM Ice Breaker: Leonardo – A Contemporary Museum for Science and Culture**

**8:00 PM Annual Broadcasters Dinner; Sponsored by Ski Utah**

**Tuesday – 21 October**

7:00 AM Registration and Information Desk Opens (Closes at 4:00 PM)

9:00 AM Exhibits Open (Close at 4:00 PM)

11:30 AM Weather Briefing and NWA Announcements

11:35 AM Women's Luncheon, Meeting Rooms 10 and 11

2:15 PM Poster Session II

**Session B1 – Evolving Services**

**8:00 AM B1.0 Keynote Address - UK Met Office Warnings: The Journey from Threshold to Impacts**

*Patricia Boyle*, Met Office Liaison Officer (AFWA) US Air Force Weather Agency, Offutt Air Force Base, NE

**8:30 AM B1.1 Forecasting A Continuum of Environmental Threats (FACETs): Progress in Crystallizing a Paradigm Change**

*Lans Rothfus*, NWA 2007 Vice President, NOAA/OAR/NSSL, Norman, OK

*Travis M. Smith* and *Christopher P. Karstens*, OU/CIMMS and NOAA/OAR/NSSL, Norman, OK

*Gregory J. Stumpf*, OU/CIMMS and NOAA/NWS/MDL, Norman, OK

*Russell Schneider*, NOAA/NWS/SPC, Norman, OK

**8:45 AM B1.2 An Early Look at the NWS National Model Blender Project**

*Jeffrey P. Craven*, NWA President, NOAA/NWS, Milwaukee/Sullivan, WI

*Stephen Lord*, NOAA/NWS/OST, Silver Spring, MD

*Kathryn Gilbert* and *David Ruth*, NOAA/NWS/OST/MDL, Silver Spring, MD

*Tom Hamill*, NOAA/OAR/ESRL/PSD, Boulder, CO

*David Novak*, NOAA/NWS/NCEP/WPC, College Park, MD

*Jim Sieveking*, NOAA/NWS, St. Louis, MO

**9:00 AM B1.3 A Nation Speaks: Focus Groups Feedback on NWS Hazard Simplification**

*Andy Horvitz*, Elliott Jacks, Vankita Y. Brown, NOAA/NWS/Office of Climate, Water & Weather Services, Silver Spring, MD

*Dr. Christopher L. Ellis*, NOAA/NOS/Coastal Services Center, Charleston, SC

**9:15 AM B1.4 NWS Impacts Based Forecast Paradigm - An Experiment**

*J.J. Brost*, NOAA/NWS, Tucson, AZ

9:30 AM Coffee Break; Exhibits Open

**Session B2 – Flooding, Flash Flooding and Heavy Rain (concurrent)**

**10:00 AM B2.0 Improving Prediction of Heavy Rainfall with Elevated Convection**

*Patrick Market*, NWA Past President ('11), University of Missouri, Columbia, MO

*Laurel McCoy*, University of Missouri and NOAA/NWS, Portland, OR

*Chad Gravelle*, CIMSS/SSEC University of Wisconsin, Madison, WI

*Charles Graves*, NWA Councilor, Saint Louis University, St Louis, MO

**10:15 AM B2.1 Flash Flood Causing Mechanisms of the North American Monsoon in the Sonoran Desert**

*Stephen W. Bieda III*, NOAA/NWS, Pendleton, OR

*Andrew C. Comrie*, University of Arizona, School of Geography & Development, Tucson, AZ

*Michael A. Crimmins*, University of Arizona, Department of Soil, Water and Environmental Sciences, Tucson, AZ

*Lee A. Byerle*, United States Air Force, Maxwell AFB, AL

*John J. Brost*, NOAA/NWS, Tucson, AZ

**10:30 AM B2.2 Two Major Heavy Rain/Flood Events in the Mid-Atlantic: June 2006 and September 2011**

*Christopher M. Gitro*, NOAA/NWS Binghamton, NY

*Michael S. Evans*, NOAA/NWS, Binghamton, NY

*Richard H. Grumm*, NAA/NWS, State College, PA

**10:45 AM B2.3 The 2014 Flash Flood and Intense Rainfall Experiment**

*Faye E. Barthold*, NOAA/NWS/WPC and I.M. Systems Group Inc., College Park, MD

*Thomas E. Workoff*, NOAA/NWS/WPC and Systems Research Group, Inc., College Park, MD

*Wallace A. Hogsett*, NOAA/NWS/WPC, College Park, MD

*JJ Gourley*, NOAA/NSSL, Norman, OK

*David R. Novak*, NOAA/NWS/WPC, College Park, MD

**11:00 AM B2.4 The 2014 HWT-Hydro Experiment**

*Race A. Clark III*, CIMMS/OU/NSSL, Norman, OK

*Jonathan J. Gourley*, NOAA/NSSL, Norman, OK

*Zac L. Flamig*, CIMMS/OU/NSSL, Norman, OK

*Elizabeth Mintmire*, CIMMS/OU/NSSL, Norman, OK

*Brandon Smith*, CIMMS/OU/NSSL, Norman, OK

**11:15 AM B2.5 Wave Run-Up: An Important Component of Coast Flooding**  
*Richard J. Okulski*, NWA Commissioner of Committees, NOAA/NWS, Caribou, ME  
*John W. Cannon*, NOAA/NWS, Gray/Portland, ME  
*Anthony Mignone*, NOAA/NWS, Caribou, ME

**Session B3 – Remote Sensing - Satellite and Radar II (concurrent)**

**10:00 AM B3.0 Using GOES-R Probabilities of IFR Visibility and Ceiling for Decision Support at the Air Traffic Control System Command Center**  
*Michael T. Eckert*, NOAA/NWS/NCEP/AWC/ATCSCC, Warrenton, VA  
*Amanda Terborg*, NOAA/NWS/NCEP/AWC, Kansas City, MO

**10:15 AM B3.1 Evaluating the Usefulness and Usability of Different GOES-R Scanning Strategies at the Operations Proving Ground**  
*Chad M. Gravelle* and *Kim Runk*, NOAA/NWS/Operations Proving Ground, Kansas City, MO

**10:30 AM B3.2 The Forecasting and Monitoring of Convection Associated with Flash Flood Threats**  
*Michael J. Folmer*, University of Maryland/ESSIC/CICS, College Park, MD  
*Andrew Orrison*, *David Novak* and *Wallace Hogsett*, NOAA/NWS/NCEP/WPC, College Park, MD  
*Jamie Kibler*, NOAA/NESDIS/OSPO/SAB, College Park, MD

**10:45 AM B3.3 NOAA's Joint Polar Satellite System's Proving Ground and Risk Reduction Program - Bringing New Capabilities to Operations**  
*Bill Sjoberg*, Global Sciences and Technology, Greenbelt, MD  
*Dr. Mitchell Goldberg*, NOAA JPSS Program, Greenbelt, MD

**11:00 AM B3.4 Future Geostationary Weather Satellites**  
*Jordan J Gerth*, CIMSS/SSEC/University of Wisconsin, Madison, WI  
*Timothy J. Schmit*, ASPB/NESDIS, Madison, WI  
*Steven J. Goodman*, GOES-R/NESDIS, Huntsville, AL

**11:15 AM B3.5 Configuration and Evaluation of a Dual-Doppler Wind Field System**  
*Winifred C. Crawford*, ENSCO, Inc., Cocoa Beach, FL  
*Peter Blottman*, NOAA/NWS Melbourne, FL

**11:30 AM Weather Briefing and NWA Announcements**

**11:35 AM Lunch on your own; Exhibits open**

**11:35 AM Women's Luncheon**

**Session B4 – Severe Weather I**

**1:00 PM B4.0 A Procedural, Philosophical, and Scientific Look at NWS Warning Services for Serial-Type QLCSS in the Ohio Valley**  
*Ted W. Funk*, NOAA/NWS, Louisville, KY

**1:15 PM B4.1 An Examination of High-Shear/Low-CAPE QLCSS Events in the Lower Ohio Valley: Environments and Vr Shear Details**  
*Patrick J. Spoden* (NWA Specialized Operational Services Committee Chair), *Daniel R. Spaeth*, *Christine Wielgos*, *Mike York* and *Robin R. Smith*, NOAA/NWS, Paducah, KY

**1:30 PM B4.2 Outlook and Warning Methodologies for the 28 April 2014 Tornado Outbreak**  
*Alan Gerard*, NWA Past President ('07), *Chad Entremont*, *Daniel Lamb*, *Stephen Wilkinson*, NOAA/NWS, Jackson, MS

**1:45 PM B4.3 The Meaning of an EF-Scale Standard**  
*Jim LaDue*, NOAA/NWS/WDTB, Norman, OK  
*Marc Levitan*, NIST/National Windstorm Impact Reduction Program Office

**2:00 PM B4.4 The Tornado Outbreak of 17 November 2013: Operational Considerations for a High Impact Event and Anticipating Tornado Development within a QLCSS**  
*Jeffrey A. Logsdon*, *Courtney Obergfell*, *Todd Holsten*, NOAA/NWS, Northern Indiana, IN

**Session P2 – Poster Session II**

**2:15 PM Poster Session and Exhibits (and Break)**

**Session B5 – Multifarious I (concurrent)**

**3:45 PM B5.0 The Evolving NWS Western Region Regional Operations Center Services**  
*Matt Solum*, *Scott Carpenter*, *Todd Morris*, *Jeff Zimmerman*, *Leslie Wanek*, *Steve Apfel*, *Jeff Lorens*, *Mike Schaffner*, *Scott Birch*, *Claudia Bell*, *Andrea Bair*, NOAA/NWS/Western Region Headquarters, Salt Lake City, UT

**4:00 PM B5.1 Development of a Black Ice Numerical Weather Prediction Model**  
*Benjamin A. Toms* and *Yang Hong*, Hydrometeorology and Remote Sensing Laboratory (HyDROS), University of Oklahoma, Norman, OK  
*Jeffrey Basara*, University of Oklahoma/Mesonet, Norman, OK

**4:15 PM B5.2 Environmental Comparison of Supercell and Squall Line Verified Tornado Warnings and False Alarms**  
*Jessica M. Tomaszewski*, University of Oklahoma, Norman, OK  
*Kevin Deitsch* and *Ted Funk*, NOAA/NWS, Louisville, KY

**4:30 PM B5.3 Toward Improved Understanding and Numerical Forecasting of Wintertime Stable Boundary Layers: The Persistent Cold Air Pool Study**  
*Erik T. Crosman* and *John D. Horel*, University of Utah, Salt lake City, UT

**4:45 PM B5.4 Precipitation in the Intermountain West – The ENSO-PDO Teleconnection**  
*Boniface O. Fosu* and *Shih-Yu S. Wang*, Utah State University, Logan, UT

**Session B6– Fire Weather (concurrent)**

**3:45 PM B6.0 Weather and Fuel Conditions Related to the Yarnell Hill Tragedy**  
*J. Brent Wachter*, NOAA/NWS, Albuquerque, NM

**4:00 PM B6.1 Meteorological Conditions and Decision Support Services Associated With the Yarnell Hill Fire**  
*Andrew A. Taylor* and *Brian A. Klimowski*, NOAA/NWS, Flagstaff, AZ  
*Michael J. Staudenmaier, Jr.*, NOAA/NWS/Western Region Headquarters, Salt Lake City, UT

**4:15 PM B6.2 Verification of National Weather Service Spot Forecasts Using Surface Observations**  
*Matt Lammers* and *John D. Horel*, University of Utah, Salt Lake City, UT

**4:30 PM B6.3 The North American Monsoon's Impact on Fire Activity in the Southwestern United States**  
*Nicholas J. Nauslar*, Desert Research Institute, Reno, NV

**4:45 PM B6.4 Impacts of upstream wildfire emissions on CO, CO<sub>2</sub>, and PM<sub>2.5</sub> concentrations in Salt Lake City, Utah**  
*Derek V. Mallia* and *John C. Lin*, University of Utah, Salt Lake City, UT



## Wednesday – 22 October

- 7:00 AM Registration and Information Desk Opens (Closes at 4:00 PM)  
 7:45 AM Weather Briefing and NWA Announcements  
 9:45 AM Poster Session III  
 11:15 AM Awards Luncheon

### Session C1 – Weather-Ready Nation

#### 8:00 AM C1.0 Keynote – Continuing to Build a Weather-Ready Nation

*Laura Furgione*, Deputy Director, NWS, NOAA, Silver Spring, MD

#### 8:30 AM C1.1 Storm Prediction Center Risk Communication: Recent Changes and Future Plans

*William F. Bunting* and *Russell S. Schneider*, NOAA/NWS Storm Prediction Center, Norman, OK

#### 8:45 PM C1.2 The Pathfinder Project for Collaboration on Weather for Surface Transportation

*Larry Dunn*, NOAA/NWS, Salt Lake City, UT  
*Ralph Patterson*, Narwhal Group, Salt Lake City, UT  
*Paul Pisano*, Federal Highway Administration, Washington, D.C.

#### 9:00 AM C1.3 The National Weather Service Impacts Catalog

*Kevin Scharfenberg*, NOAA/NWS, Silver Spring, MD  
*John Crockett*, CIRA and NOAA/NWS Silver Spring, MD  
*Wendy Marie Thomas*, NOAA/NWS, Silver Spring, MD  
*John Keyes*, NOAA/NWS, Pocatello, ID  
*Larry Dunn*, NOAA/NWS, Salt Lake City, UT

#### 9:15 AM C1.4 A Review of Significant Weather Events Occurring in 2014

*Greg Carbin*, NWA Councilor and NWA Professional Development Committee Chair, NOAA/NWS Storm Prediction Center, Norman, OK

### Session P3 – Poster Session II

#### 9:45 AM Poster Session (and Break)

### Session C2 – Societal Response/Social Science

#### 1:30 PM C2.0 Sponsor Presentation

#### 1:45 PM C2.1 Sheltering Behavior in the 20 May 2013 Newcastle-OKC-Moore Tornado

*Richard Smith*, NOAA/NWS, Norman, OK

#### 2:00 PM C2.2 May 20 Newcastle/Oklahoma City/Moore Tornado: Post-Disaster Assessment of Preparedness, Planning and Recovery

*Alek Krautmann*, *Rachel Riley*, *Margret Boone*, *Monica Deming* and *Mark Shafer*, Oklahoma Climate Survey, Norman, OK

#### 2:15 PM C2.3 How People Respond: A Meta-Analysis of Tornado Warning Response Research

*Nate Johnson*, WRAL-TV/NC State University, Raleigh, NC

#### 2:30 PM C2.4 Completing the Tornado Response Mental Model: Examining Subject Matter Expert's Warning Decision Methods and Perceptions of Relevant Public Knowledge

*Elise V. Schultz*, NWA Councilor, University of Alabama in Huntsville, Huntsville, AL  
*Marita A. O'Brien*, Franciscan University of Steubenville, Steubenville, OH  
*Paula Tucker*, University of Alabama in Huntsville, Huntsville, AL

#### 2:45 PM C2.5 Understanding and Improving Responses to Weather Messages through Communication Research

*Rebeca Morss*, *Julie Demuth*, *Jeffrey Lazo*, *Katherine Dickinson* and *Heather Lazrus*, National Center for Atmospheric Research, Boulder, CO  
*Betty Morrow*, SocResearch, Miami, FL

3:00 PM Break

### Session C3 – Decision Support Services I (concurrent)

#### 3:30 PM C3.0 WFO SLC Weather Impact Catalog

*Mike Seaman*, *Randy Weatherly*, *Kevin Barjenbruch*, NWA Societal Impacts of Weather and Climate Committee Chair, NOAA/NWS, Salt Lake City, UT

#### 3:45 PM C3.1 Toward Zero Deaths: Making the Traveling Public Safer Through A Partnership Between the National Weather Service and the Idaho Transportation Department

*Dean Hazen* and *Jeremy Schulz*, NOAA/NWS, Pocatello, ID

#### 4:00 PM C3.2 The Integrated Warning Team Concept - An Application to River Flooding Across the Red River of the North and the Devils Lake Basins

*Peter J. Rogers*, *Gregory J. Gust*, NOAA/NWS, Grand Forks, ND

#### 4:15 PM C3.3 Using Plain English, Simple Graphics and Customer Collaboration to Reinvent the Communication of Hazardous Weather Information

*James M. Maczko*, NOAA/NWS, Grand Rapids, MI

#### 4:30 PM C3.4 Communicating Severity of Impacts: How Bad is "Bad"?

*Mark A. Fox*, NOAA/NWS, Fort Worth, TX  
*Melissa S. Huffman*, NOAA/NWS, Midland/Odessa, TX

#### 4:45 PM C3.5 Enabling Scientific and Technological Improvements to Meet Core Partner Service Requirements in Alaska - An Arctic Test Bed

*Gene M. Petrescu* and *Carven Scott*, NOAA/NWS/Alaska Region Headquarters, Anchorage, AK  
*James Nelson*, NOAA/NWS, Anchorage, AK

#### 5:00 PM C3.6 An Analysis of Wet Bulb Globe Temperature and Heat Impacts and Services in the Twin Cities Metropolitan Area

*Lisa R. Schmit*, NOAA/NWS, Twin Cities, MN  
*Matthew Ninneman*, NOAA Hollings Scholar/North Carolina State University, Raleigh, NC

### Session C4 – Numerical Weather Prediction (concurrent)

#### 3:30 PM C4.0 Predictability Horizons - Part I: Implications on Weather-Based Decisions

*Justin M. Arnott*, NOAA/NWS, Gaylord, MI  
*Richard H. Grumm*, NOAA/NWS, State College, PA

#### 3:45 PM C4.1 Predictability Horizons - Part II Recent Examples from 2013-2014

*Richard Grumm*, NOAA/NWS, State College, PA  
*Justin M. Arnott*, NOAA/NWS, Gaylord, MI

#### 4:00 PM C4.2 Using Fractional Lake Ice and Variable Ice Thickness in the WRF-ARW to improve forecasts for the northern Great Lakes

*Michael R. Dutter* and *Todd Kluber*, NOAA/NWS, Marquette, MI

#### 4:15 PM C4.3 Facilitating the Future of Forecast Modeling

*Todd A. Hutchinson*, WSI, Andover, MA

#### 4:30 PM C4.4 Operational Use of Ensembles - Forecaster Understanding of Uncertainty

*Jeffrey S. Tongue*, NWA Education Committee Chair, NOAA/NWS, New York, NY  
*Brian A. Colle*, Stony Brook University School, Stony Brook, NY

#### 4:45 PM C4.5 Strengths and Weaknesses of High Resolution Numerical Weather Prediction in Precipitation Forecasting for Mountain-Desert Climate Regimes

*Alex O. Tardy*, NOAA/NWS, San Diego, CA



**5:00 PM C4.6 A Forecast of Prolonged Inversion Episodes in the Intermountain West out to One Month**  
*Robert R. Gillies and S.-Y. Simon, Utah Climate Center, Utah State University, Logan, UT*

### Thursday – 23 October

**7:00 AM** Registration and Information Desk Opens (Closes at 3:00 PM)

**11:30 AM** Weather Briefing and NWA Announcements

### Session D1 – Decision Support Services II and Aviation

**8:00 AM D1.0 Keynote - The Meteorological Challenges of Red Bull Stratos**  
*Don Day, Day Weather Inc., Cheyenne, WY*

**8:30 AM D1.1 INSITE - INtegrated Support for Impacted air-Traffic Environments**  
*Brian J. Etherton, NOAA/ESRL, Boulder, CO*  
*Melissa Petty, CIRA and Colorado State University, Fort Collins, CO*  
*Geary Layne, Paul Hamer and Michael Rabellino, CIRES/University of Colorado, Boulder, CO*

**8:45 AM D1.2 Identifying and Communicating Hazardous Weather to General Aviation Pilots**  
*Paul S. Suffern, Mike Richards, Brian Soper, NTSB, Washington D.C.*

**9:00 AM D1.3 NWS New Orleans/Baton Rouge Impact-Based Decision Support Pilot Project**  
*Matthew J. Moreland, Tim Erickson, Angel Montanez and Kenneth Graham, NOAA/NWS, New Orleans/Baton Rouge, LA*

**9:15 AM D1.4 The Growing Role of NOAA in DHS Operations and Planning: Storm Surge et al.**  
*Peter B. Roohr, NOAA NWS OST Sci Plans Branch, Silver Spring, MD*  
*Regis Walter, NOAA CIO and DHS OPS NOC, Washington, D.C.*

**9:30 AM** Break

### Session D2 – Severe Weather II

**10:00 AM D2.0 An evaluation of Normalized Rotation Vorticity Couplets to Assess Tornadic Mesocyclone Potential**  
*Thomas J. Turnage, NOAA/NWS, Grand Rapids, MI*

**10:15 AM D2.1 Analysis of Polarimetric Tornado Debris Signatures Observed by WSR-88D Associated with Significant Tornadoes**  
*Steven Nelson, NOAA/NWS, Peachtree City, GA*  
*John R. Banghoff, Ohio State University, Columbus, OH*

**10:30 AM D2.2 Radar Analysis of the 17 November 2013 Tornado Outbreak across Central Indiana within a High-Shear/Low-CAPE Environment**  
*Amanda J. Lee, Michael D. Ryan, Michael Koch, Crystalne Pettet and Daniel McCarthy, NOAA/NWS, Indianapolis, IN*

**10:45 AMD2.3 The First Alabama Superoutbreak - March 21, 1932**  
*William B. Murray, NWA Councilor, The Weather Factory, Birmingham, AL*

**11:00 AMD2.4 Landspout Tornadoes on Weak Boundaries in the Basins of Central Wyoming**  
*Brett E. McDonald, Chris N. Jones, NOAA/NWS, Riverton, WY*

**11:15 AM D2.5 Impact Based Warning Decisions and Broadcast Media Response for the St. Charles/St. Louis County EF3 QLCS Tornado of 31 May 2013**  
*Fred H. Glass, NOAA/NWS, St. Louis, MO*

**11:30 AM** Weather Briefing and NWA Announcements

**11:35 AM** Lunch (on your own)

### Session D3 – Winter Weather II and Flooding II

**1:00 PM D3.0 Exploring the Utility of Down-scaled SREF Grids for Generating Probabilistic Snowfall Forecasts**  
*Glen Merrill and Randy A. Graham, NWA 2014 Annual Meeting Program Chair, NOAA/NWS, Salt Lake City, UT*

**1:15 PM D3.1 Using the Froude Number to Improve Orographic Snow Forecasts in the Green Mountains of Vermont**  
*Michael J. Muccilli, NOAA/NWS, Burlington, VT*

**1:30 PM D3.2 The Utility of Polarimetric Radar in Improving Aviation Forecasts for Winter Weather Events**  
*Joseph C. Picca, NOAA/NWS, New York, NY*  
*Matthew R. Kumjian, Pennsylvania State University, State College, PA*  
*Jeffrey S. Tongue, NWA Education Committee Chair, NOAA/NWS, New York, NY*

**1:45 PM D3.3 Recent Improvements to the Medium Range and Winter Weather Product Suite at the Weather Prediction Center (WPC)**  
*Anthony R. Fracasso, Keith Brill, Michael Schichtel, Wallace Hogsett and David Novak, NOAA/NCEP/NWS/WPC, College Park, MD*

**2:00 PM D3.4 Improving MRMS Q3 Precipitation Estimation in the Western United States: Preliminary Results**  
*Steven M Martinaitis and Youcun Qi, OU/CIMMS and NOAA/OAR/NSSL, Norman, OK*  
*Jian Zhang, NOAA/OAR/NSSL, Norman, OK*  
*Stephen Cocks, Lin Tang and Brian Kaney, OU/CIMMS and NOAA/OAR/NSSL, Norman, OK*  
*Kenneth Howard, NOAA/OAR/NSSL*

**2:15 PM D3.5 A New National Weather Service Storm Surge Warning and Inundation Graphic**  
*Robbie Berg and Jamie Rhome, NOAA/NWS/National Hurricane Center, Miami, FL*

**2:30 PM D3.6 What does the flood stage of “X” really mean? A GIS River Flooding Extent Approach**  
*Jared S. Allen, NOAA/NWS, Jackson, MS*  
*Derrick Jones, NOAA EPP Student, Delta State, Cleveland, MS*

**2:45 PM** Break

### Session D4 – Multifarious II

**3:15 PM D4.0 Synoptic Windstorms on the Southern Great Plains**  
*Justyn D. Jackson and T. Todd Lindley, NOAA/NWS, Amarillo, TX*  
*Todd A. Beal, NOAA/NWS, Corpus Christi, TX*

**3:30 PM D4.1 Recent Advancements from the Research-to-Operations (R2O) Process at HMT-WPC**  
*Thomas E. Workoff, SRG, Inc. and NOAA/NCEP/WPC, College Park, MD*  
*Faye E. Barthold, IMMSG and NOAA/NCEP/WPC, College Park, MD*  
*Michael J. Bodner and David R. Novak, NOAA/NCEP/WPC, College Park, MD*  
*Brad Ferrier, IMMSG and NOAA/NCEP/EMC, College Park, MD*  
*Wallace Hogsett, NOAA/NCEP/EMC, College Park, MD*

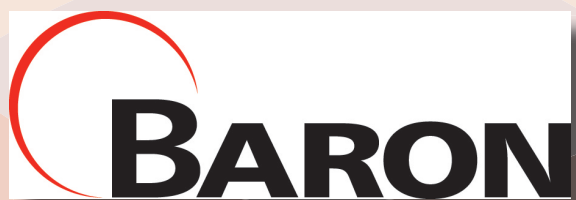
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We welcome Newsletter article submissions from members. Send articles to [nwanewsletter@nwas.org](mailto:nwanewsletter@nwas.org) by the 25th of the month for publication in the following month's edition at the earliest. Information about the Newsletter and a link to author guidelines can be found at

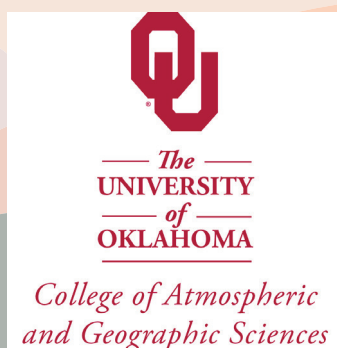
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| <p><b>3:45 PM D4.2 Findings from the 2014 Hazardous Weather Testbed Probabilistic Hazard Information Experiment</b><br/><i>Christopher D. Karstens, OU/CIMMS NOAA/NSSL, Norman, OK</i><br/><i>Greg Stumpf, OU/CIMMS and NOAA/NWS/MDL, Norman, OK</i><br/><i>Darrel Kingfield, OU/CIMMS NOAA/NSSL, Norman, OK</i><br/><i>Chen Ling and Lesheng Hua, University of Oklahoma, Norman, OK</i><br/><i>Travis Smith, James Correia, Kristin Calhoun, Kiel Ortega, CIMMS/OU and NOAA/NSSL, Norman, OK</i><br/><i>Christopher J. Melick, OU/CIMMS and NOAA/NWS/SPC, Norman OK</i><br/><i>Lans P. Rothfusz, NWA 2007 Vice President, NOAA/NSSL, Norman, OK</i></p> | <p><b>4:00 PM D4.3 NOAA/NWS Western Region Heat Impact Level Project</b><br/><i>Michael J. Staudenmaier, NOAA/NWS/ Western Region Headquarters, Salt Lake City, UT</i><br/><i>Paul Iniguez, NOAA/NWS, San Joaquin Valley/Hanford, CA</i><br/><i>William Rasch, NOAA/NWS, Sacramento, CA</i><br/><i>Darren Van Cleave, NOAA/NWS, Missoula, MT</i></p> <p><b>4:15 PM D4.4 Bringing Weather Ready Nation into Operations: An Operational Testbed in Northern California</b><br/><i>Bill Rasch, NOAA/NWS, Sacramento, CA</i><br/><i>Paul Iniguez, NOAA/NWS, San Joaquin Valley/Hanford, CA</i><br/><i>Mel Nordquist, OAA/NWS, Eureka, CA</i><br/><i>Warren Blier, NOAA/NWS, San Francisco Bay Area/Monterey, CA</i></p> | <p><b>4:30 PM D4.5 A Revolutionary New Look at Training Practices at National Weather Service Weather Forecast Offices</b><br/><i>Marc Singer, NOAA/NWS, Billings, MT</i></p> <p><b>4:45 PM D4.6 Unconventional Diurnal Trends of Relative Humidity and Fire Behavior near Subsidence Inversions and the Top of the West Coast Marine Layer</b><br/><i>Andrew W. Haner, NOAA/NWS, Seattle, WA</i></p> <p><b>5:00 PM Closing remarks; 39th NWA Annual Meeting adjourns</b></p> |
|---|---|---|

## IMPORTANT DATES

### September 15:

Purchase an exhibit booth or sponsorship by this day to take full advantage of all benefits

### September 17:

Deadline for Crystal Inn room block reservations at NWA price (if not sold out)

### Oct. 1:

Deadline to submit abstract changes

### Oct. 18–23:

NWA 39th Annual Meeting

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