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 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 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)
Sunday – 19 October
7:00 AM Registration and Information Desk
Open (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 Mizio, NWA Broadcast
Meteorology Committee Chair &
KBAT-7 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 Methodologies 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 Mizio, NWA Broadcast
Meteorology Committee Chair &
KBAT-7 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
Open (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

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

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 Banford, 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 to help customers make decisions related to safety surrounding a number of weather threats, including snowfall and thunderstorms. Certain customers that operated huge cranes at shipyards needed 2-4 hours lead time for thunderstorms, since it took a good deal of time to shut down operations and evacuate personnel from atop the cranes to a place of safety. As 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 geostationary 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 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 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.
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 communication 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 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.

References
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

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), WGEA-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 Varying Conditions during Freezing Rain Events

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. Voals, 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. Voals 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)
Marcus D Austin, Matthew Day, Michael Scotten and Jonathan Kartz, 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.
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 Rothfuss, 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/NSW/MDL, Norman, OK
Russell Schneider, NOAA/NSW/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

10:00 AM B2.0 Improving Prediction of Heavy Rainfall with Elevated Convexion
Patrick Market, NWA Past President (’11), University of Missouri, Columbia, MO
Laurel McCoy, University of Missouri and NOAA/NWS, Portland, OR
Chad Gravelle, CIMMS/SSERC 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. Griot, 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/NSSSL, 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/NSSSL, Norman, OK
Jonathan J. Gourley, NOAA/NSSSL, Norman, OK
Zac L. Flamig, CIMMS/OU/NSSSL, Norman, OK
Elizabeth Mintmire, CIMMS/OU/NSSSL, Norman, OK
Brandon Smith, CIMMS/OU/NSSSL, Norman, OK

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
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 (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/ATSCCC, 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/SSC/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 QLCS 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 QLCS  
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 Wianek, Steve Apfel, Jeff Lorenz, 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. Crossman 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

B6.4 Impacts of upstream wildfire emissions on CO, CO2, and PM2.5 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 E. 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, NWS Development 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, Margaret 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 Councillor, 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
Rebecca Morris, Julie Demuth, Jeffrey Lazo, Katherine Dickinson and Heather Lazzrus, 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

3:50 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
Thursday – 23 October

7:30 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, CIERES/University of Colorado, Boulder, CO

8:45 AM D1.2 Identifying and Communicating Hazardous Weather to General Aviation Pilots
Paul S. Saffern, 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. Roehr, 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, Crystalyn Pettet and Daniel McCarthy, NOAA/NWS, Indianapolis, IN

10:45 AM D2.3 The First Alabama Superoutbreak - March 21, 1932
William B. Murray, NWA Councilor, The Weather Factory, Birmingham, AL

11:00 AM D2.4 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 Downscaled 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 Forecasting for Winter Weather Events
Joseph C. Picca, NOAA/NWS, New York, NY
Matthew R. Kummer, 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 Youcan 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 Rhone, 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, IMSG and NOAA/NCEP/WPC, College Park, MD
Michael J. Bodner and David R. Novak, NOAA/NCEP/WPC, College Park, MD
Braud Ferrier, IMSG 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 www.nwaletter@nwas.org by the 25th of the month for publication in the following month’s edition or earlier. Information about the Newsletter and a link to author guidelines can be found at http://www.nwas.org/newsletters/
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3:45 PM D4.2 Findings from the 2014 Hazardous Weather Testbed Probabilistic Hazard Information Experiment
Christopher D. Karstens, OU/CIMMS NOAA/NSSL, Norman, OK
Greg Stumpf, OU/CIMMS and NOAA/NWS/MDL, Norman, OK
Darrel Kingfield, OU/CIMMS NOAA/NSSL, Norman, OK
Chen Ling and Lesheng Hua, University of Oklahoma, Norman, OK
Travis Smith, James Correia, Kristin Calhoun, Kiel Ortega, CIMMS/OU and NOAA/NSSL, Norman, OK
Christopher J. Melick, OU/CIMMS and NOAA/NWS/SPC, Norman OK
Lans P. Rothfusz, NWA 2007 Vice President, NOAA/NSSL, Norman, OK

4:00 PM D4.3 NOAA/NWS Western Region Heat Impact Level Project
Michael J. Staudenmaier, NOAA/NWS/Western Region Headquarters, Salt Lake City, UT
Paul Iniguez, NOAA/NWS, San Joaquin Valley/Hanford, CA
William Rasch, NOAA/NWS, Sacramento, CA
Darren Van Cleave, NOAA/NWS, Missoula, MT

4:15 PM D4.4 Bringing Weather Ready Nation into Operations: An Operational Testbed in Northern California
Bill Rasch, NOAA/NWS, Sacramento, CA
Paul Iniguez, NOAA/NWS, San Joaquin Valley/Hanford, CA
Mel Nordquist, OAA/NWS, Eureka, CA
Warren Blier, NOAA/NWS, San Francisco Bay Area/Monterey, CA

4:30 PM D4.5 A Revolutionary New Look at Training Practices at National Weather Service Weather Forecast Offices
Marc Singer, NOAA/NWS, Billings, MT

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
Andrew W. Haner, NOAA/NWS, Seattle, WA

5:00 PM Closing remarks; 39th NWA Annual Meeting adjourns

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