



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

No. 14 – 9

# Newsletter SEPTEMBER

2014

## Four Teachers Receive National Weather Association Grants

From buying weather sling psychrometers to helping Latino students, NWA grants are funding some exciting opportunities for students this year. Each year, the NWA selects K-12 teachers/educators who are improving education of their students, school and/or community in the science of meteorology as recipients of the “Sol Hirsch Education Fund Grants.” Mary Bauer of Kerrville, Texas, Leigh Ann Hudson of Williamston, North Carolina, Alexandra Oliver-Davila of Roxbury, Massachusetts, and Jennifer Smith of Monticello, Illinois, are the 2014 Sol Hirsch Grant recipients. Each of these educators are getting \$750.

“To ensure a successful future in meteorology, it is imperative that teachers have the necessary resources. The National Weather

Association is dedicated to assisting those who are coming up with innovative ways to inspire our future scientists,” said Jeff Craven, President of the NWA. “The money used for Sol Hirsch grants is completely donated by our members. These contributions are a testament of how much the NWA believes in furthering meteorology in schools.”

Sol Hirsch, charter member of the NWA and NWA Executive Director 1981-1992, envisioned the grants and began the program when he retired from the NWA. Since its creation, over \$60,000 has been given to various programs across the country. We received 59 applications for this year’s grant. A committee of NWA members reviewed and selected this year’s grant recipients.

### The 2014 grants will help these programs:

**Mary Bauer:** Our Lady of the Hills Regional Catholic High School is purchasing meteorological instruments to assist students in their study of the weather and to increase their enthusiasm for meteorology. This is especially important for tactile/kinesthetic learners at the school. The program is “Passing It Down: Meteorology, Big Kids Teaching Little Kids!”



**Alexandra Oliver-Davila:** Sociedad Latina has a long history of providing high-quality, culturally relevant academic and enrichment programming that produces positive outcomes for Boston’s Latino and English Language Learning youth. The grant will support the “Climate Change & Our Community” project which will be in the fall 2014 program session.



**Leigh Ann Hudson:** Riverside High School’s science department will use the funds to purchase a weather station along with simple analog equipment, including thermometers, sling psychrometers, and anemometers. It will affect all students enrolled in Earth/Environmental Science, biology, and physical science (approximately 300 students annually). The project is “Meteorologists: The Next Generation.”



**Jennifer Smith:** Monticello Middle School will create new interdisciplinary and multi-grade level experiences, “Sage Weather Watchers.” Its goal is to broaden student understanding and application of atmospheric sciences; they will use the money to help purchase weather station supplies and instructional materials.

## INSIDE THIS EDITION

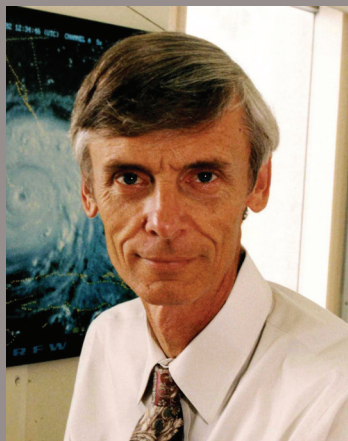
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*In Memoriam:*

## John T. Madura

**NWA member since 1979**



Meteorologist John T. Madura, who led development of the lightning launch commit criteria used by NASA and the U.S. Air Force, died Aug. 14, 2014, at the age of 71. He served as manager of the Kennedy Space Center's Weather Office since 1993.

Fellow meteorologist, Frank Merceret, Ph. D., explained that his longtime colleague was one of the most hard-working individuals he ever knew.

"John always was dedicated to his job," said Merceret, retired chief of NASA's Applied Meteorological Unit. "He deeply believed in what he was doing."

A Los Angeles native, Madura earned a bachelor's degree in physics from Loyola-Marymount University in 1964, a master's degree in international relations from the University of Southern California in 1967 and a master's in meteorology from the University of Michigan in 1973.

Prior to joining NASA, Madura was commander of the U.S. Air Force's 45th Weather Squadron at Patrick Air Force Base, Florida. The group performs weather assessments for air and space operations specifically focusing on weather observations, forecasts, advisories and warnings.

Helping others understand weather phenomena and forecasting always was a priority for Madura.

"John would go out of his way to help us brief the news media on how the weather might impact a rocket launch or space shuttle landing," said NASA Public Affairs officer George Diller. "Reporters often expressed appreciation for his insights."

Merceret pointed out that Madura always had a presentation for the level of any group interested in weather.

"His door was always open," he said. "It didn't matter if it was a group of meteorological students or grade school Girl Scouts. John had a pitch at just the right level."

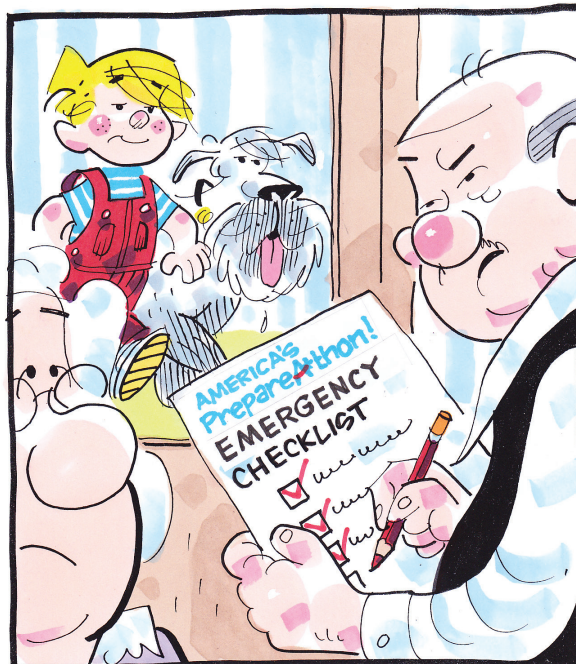
Madura was awarded the NASA Distinguished Service Medal in 2013. The highest honor bestowed by the agency, the recognition is presented to those who display outstanding service, ability or courage, and have personally made a contribution representing substantial progress to the NASA mission. In 1999, he was selected as a NASA Space Flight Awareness Honoree, recognizing employees involved in human spaceflight for promoting flight safety and mission success.

A resident of Cocoa Beach, Florida, Madura is survived by his former wife, Jenna, and their daughter, Tiffany Madura.

By Bob Granath  
NASA's Kennedy Space Center, Florida

# AMERICA'S *PrepareAthon!*<sup>SM</sup>

**Be Smart. Take Part. Prepare.**



**"OF COURSE HE'S ON THE LIST... TORNADOES, WILDFIRES, FLOODS, HURRICANES... AND DENNIS!"**

America's PrepareAthon! is bringing communities together to prepare for disasters. To join, visit [www.ready.gov/prepare](http://www.ready.gov/prepare). Thanks to [DENNIS THE MENACE](#) and [Comic Kingdom](#) for the use of this cartoon.

## 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)



# You Don't Always Need a Severe storm to Get High Impacts

Jeff Craven, NWA President

Back in August, I was driving from Chicago to Gaylord, Michigan, with fellow NWS Science and Operations Officer Eric Lenning. He was making the best of being trapped in a car with me for hours, and we discussed a variety of issues. Eric's office in Chicago (LOT) is one of three major hubs in what the FAA refers to as the Golden Triangle. When adverse weather affects Chicago, New York City, or Atlanta, the whole U.S. airspace experiences flight delays and cancellations. Thunderstorms, winter storms, and dense fog within the Golden Triangle impact travelers across the country.

During our chat, Eric talked about what can happen even on a sunny summer day at Chicago O'Hare Airport (ORD). Federal Aviation Administration (FAA) Air Traffic Control (ATC) folks are passionate about making the airport operations as efficient as possible. The lake breeze can kick in, force controllers to flip (i.e., switch the orientation of the active runways) the airport, and reduce landings by nearly 20 percent. Due to various constraints, the preference at ORD is to take off and land in a westerly direction, preferably into the wind. In this configuration, ORD can handle up to 106 arriving flights an hour. A wind shift to easterly flow drops arriving flights to 88 an hour. Maximum departures are 95 on a westerly flow and 75 on east flow, so total traffic decreases by almost 40 flights per hour in this example. That simple wind shift can cause flight delays on a day that is considered tranquil to most of us. In fact, controllers will try to maintain a west flow configuration with tailwinds up to about 9 knots just to keep the airport operating at maximum efficiency. NWS Forecasters at LOT routinely monitor the FAA demand chart for ORD to be situationally aware of demand and its impacts. They also routinely monitor the two-hourly FAA planning telcons to be aware of enroute and other terminal constraints ATC may be concerned about, and gain insight into weather-related impacts. Additionally, because the lake breeze has such an impact, NWS Chicago tracks probability of detection as well as lead-time statistics for the lake breeze in its Terminal Area Forecasts.

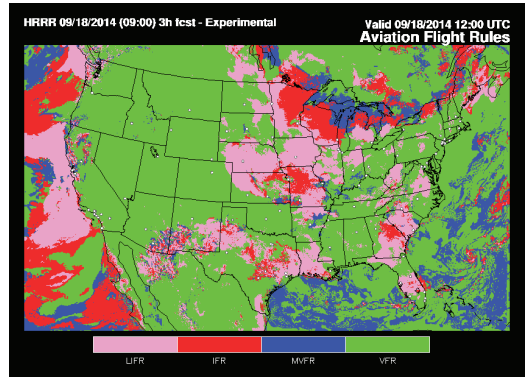
Low clouds and fog are another high-impact event for transportation in general. I am not a big fan of stratus clouds, as I was tormented as a child in Oxnard, California, with frequent visits of late night and early morning low clouds and fog. I was always hoping to see more



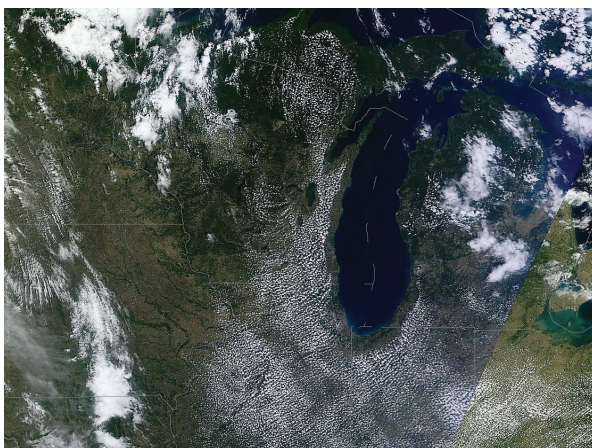
*(Aerial view of Chicago's O'Hare International Airport [ORD], Courtesy Wikimedia Commons)*

active weather like heavy rain, thunderstorms, and similar more exciting versions of weather. But fog can be just as dangerous and result in high impacts. Vivid examples include multi-car pile-ups and the inability for many general aviation pilots to fly due to Instrument Flight Rules (IFR). Our increasingly sophisticated microphysics schemes in numerical weather prediction models produce gridded forecasts at high resolution for ceiling and visibility. The High Resolution Rapid Refresh (HRRR) model went operational at the National Centers for Environmental Prediction at 3-km resolution on September 30. We often think of the simulated reflectivity images that look like an actual radar display. These models also can be harnessed for low cloud and fog impacts. This example of an HRRR product includes Low IFR flight rules in pink, which is either a visibility below one statute mile or a ceiling of less than 500 feet above ground level.

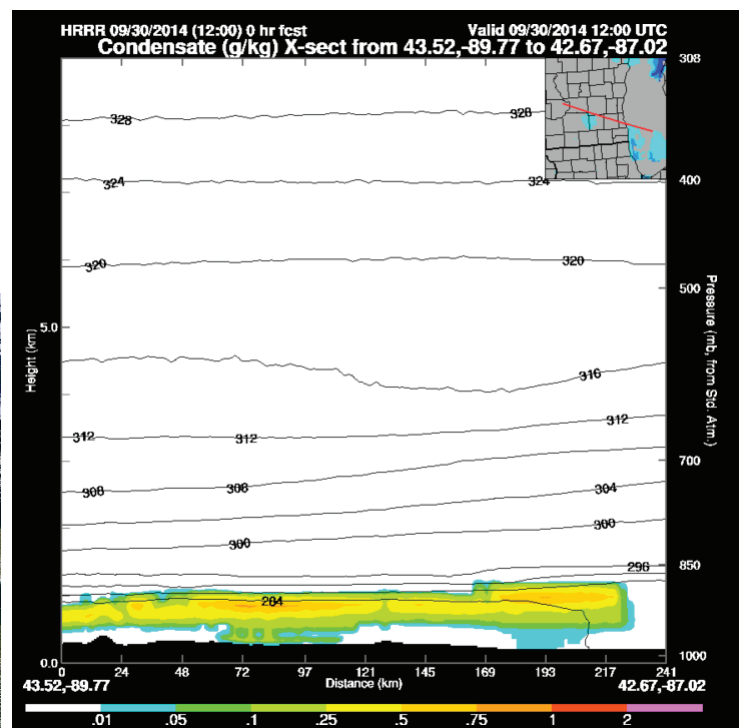
There are also new parameters like condensate in the HRRR that we can use to visualize low clouds and fog, rather than traditional fields like relative humidity. Below is a cross section across southern Wisconsin for the HRRR model. It shows a fog bank around sunrise (blue and yellow tones). Given the 15-60 minute time intervals available in the model, it is possible to estimate the burn off time of the stratus as the condensate decreases.



*(Credit: NOAA/OAR - Example forecast of Aviation Flight Rules from HRRR on September 18, 2014)*



*(Example MODIS true color image showing cloud free areas behind stabilizing effects of Lake Michigan Breeze)*



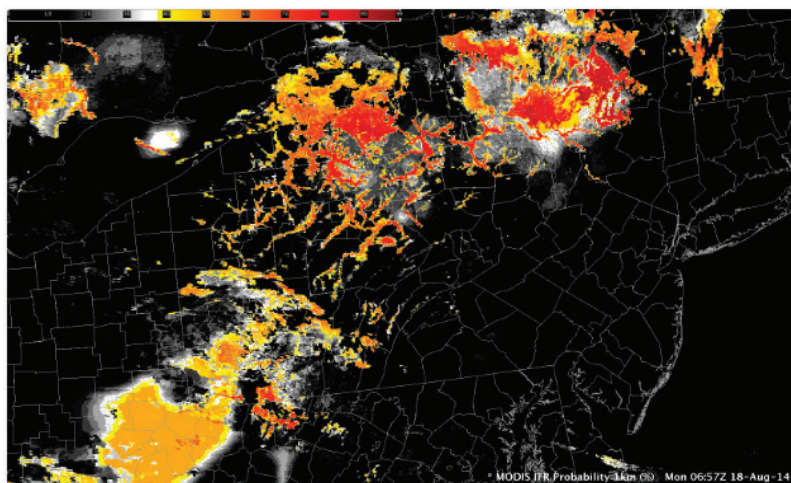
*(Courtesy NOAA Earth System Research Laboratory)*

See *PRESIDENT*, p. 4



*PRESIDENT from p. 3*

As satellites are becoming higher and higher resolution with more capabilities, we can observe the rapid change in visibility from one valley to the next. This image simulates the GOES-R IFR probabilities product using a combination of GOES-13 and MODIS polar orbiter data. It provides a nice example from the Pennsylvania area, with the red colors indicating 80 percent or higher probabilities of IFR conditions. One of the dangers of valley fog is the rapid changes that can occur in visibility over short distances. Although we often highlight the potential for widespread dense fog, situations with patchy dense valley fog can also be dangerous, especially when motorists encounter large drops in visibilities on interstates and highways.



GOES-R IFR Probabilities computed from GOES-13 data and from MODIS data, at 0700 UTC 18 August 2014

(Courtesy CIMSS)

A great example of how these fused probability forecasts can be harnessed is shown below for a freezing fog event in the valleys of Colorado. A decrease in the probability of IFR conditions was noted about 30 minutes before clearing, allowing for the cancellation of a Ground Stop at the Eagle airport. So rather than waiting for the fog to dissipate, planning could begin to take advantage of this knowledge to make time and money saving decisions.



I am happy to not be experiencing “stratus status” as frequently now in Wisconsin as I did growing up in coastal Southern California. The sea breeze and lake breezes on otherwise sunny days near the oceans and Great Lakes are also not particularly exciting in comparison to a severe thunderstorm or a hurricane. But the impacts to decision makers can often be high, and these impacts can also spread to impact many, many travelers during times that we might consider the weather tranquil. And they occur far more frequently. So what otherwise might seem like a quiet weather day could indeed be a great opportunity for impact based decision support services in the Weather Enterprise.

Welcome to the NWA!

*The following became NWA members in July and August.*

Regular/Military/  
Retired Members

Faye Barthold  
Jason Beaman  
Sean Blaisdell  
Paul Bongiorno  
Todd Carballo  
Dayle Cedars  
Erik Dowling  
Matthew Fearon  
Michael Grubbs  
Kevin Harned  
Daniel Hartsock  
Herbert Hensel  
John Keyes  
Richard Maliawco  
Bryan McAvoy  
Jason Mikell  
Cody Murphy  
Charles Percy  
Brandon Peloquin  
Daniel Pydynowski  
Yvette Richardson  
Kyle Schmidt  
Victoria Smoyer  
Mike Taylor  
Roger Vachalek  
Joe Witte  
Edward Yess III

Student Members

Megan Amanatides  
Chandel Conklin  
Ryan Dean  
Sara Haas  
Christina Leach  
Christopher McCray  
Chase Miller  
Noah Myers  
Dustin Norman  
Andrew Siebels

Corporate Members

Robbins Meteorological  
Consulting – iWeather.net.com

## Meet the new Norman Staff Members

In the [June newsletter](#), we briefly introduced you to Hailey Wilson and Hulda Johannsdottir. Since then, Brett Borchardt (pictured) joined the staff as a student intern.

Hulda's (pronounced hylta) title is communications coordinator. This does not fully explain her role at the NWA office. She is responsible for paying NWA bills and reconciling our financial statements. She writes and reviews the NWA Weekly Update, is taking on the role of coordinating the Newsletter and NWA communications. Annual meeting planning tasks are another area Hulda is working on. She and Hailey will oversee the registration desk at the meeting.

Hulda's native land is Iceland. She speaks five languages and has added value to the office with her business, marketing and writing skills. She has two young children and her husband is a radar researcher at the University of Oklahoma (OU). She has two cats, including one named Bill Murray.

Hailey is the member services specialist. She is spending much of her time working in the NWA Broadcaster Seal program, but is also responsible for handling all membership services, annual meeting planning, and works with



committees on the scholarship and awards programs.

Hailey was raised in Norman and most recently was a clinical research coordinator employed in medical drug research. In her spare time she teaches Pilates and competes with her horse Yogi in horse shows. They recently won ribbons in the Greater Oklahoma Hunter Jumper Horse Show. She and her husband live in Norman.

Our student intern Brett joined us in July. He has been busy auditing our membership, committee and Seal databases to ensure all data are up-to-date. He is using his meteorological skills writing some articles for the Newsletter, and is becoming more involved with day to day NWA office tasks.

Brett is a junior majoring in meteorology at OU and is a NOAA Ernest F. Hollings Scholar. He grew up outside of Chicago in the town of Naperville. He works for ARM evaluating data for accuracy, and is involved with the OU School of Meteorology Peer Mentoring Program and the Oklahoma Weather Lab.

All three of these individuals have been a pleasure to work with, and I know you will enjoy working with them too. If you are traveling to the Annual Meeting in Salt Lake City, be sure to stop by and meet them in person. You are also welcome to visit the Norman office.

All of the Norman staff are always willing and able to assist members, so please do not hesitate to call, write or e-mail us.

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Janice Bunting	exdir@nwas.org
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## High Plains NWA Chapter News

William Taylor  
President

Tim Burke  
Secretary

The NWA High Plains Chapter held a meeting during the 16th High Plains conference in Hastings, Nebraska, on August 6 after Dr. Karen Kosiba's pre-conference presentation. There were 19 Chapter members present.

[www.highplains-amsnwa.org](http://www.highplains-amsnwa.org)

The 16th High Plains Conference was a success with 70 attendees, 32 presenters, and 60 banquet attendees. Seven attendees were undergraduates, one was a graduate student, and two attendees were in the Air Force. There were two college students in the Student Paper Competition; both from the University of Nebraska Lincoln and both gave excellent presentations. This year's winner of the \$500 award was Holly B. Obermeier who presented "Verification and Analysis of Impact-Based Tornado Warnings in Central Region of the National Weather Service," which was a synopsis of her thesis.

There were three keynote speakers: Dr. Karen Kosiba from the Center for Severe Weather Research in Boulder, Colorado, speaking on "Tornado genesis, evolution and structure from fine-scale DOW (Doppler On Wheels) mobile radar observations: What we learned, implications, and future challenges;" Dr. Matthew Bunkers, the Science and Operations Officer at NWS Rapid City, South Dakota, speaking on "Choosing a Universal Mean Wind for Supercell Motion Prediction: Application for Low-Topped and Elevated Storms;" and Richard Smith, Warning Coordination Meteorologist at NWS Norman, Oklahoma, gave an enlightening briefing on the "WFO Norman and the May 2013 Tornadoes."

It was decided the 2015 High Plains Conference would be held in Goodland, Kansas.

### Newsletter Submissions

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 [www.nwas.org/newsletters/](http://www.nwas.org/newsletters/).





# 39th NWA ANNUAL MEETING

Salt Lake City, Utah: 18–23 October 2014

## Where:

All sessions will be at the [Sheraton Salt Lake City Hotel](#) (150 West 500 South, Salt Lake City, Utah, 84101) Complimentary WIFI Internet in guest rooms and meeting rooms; complimentary on-site parking for all attendees; guest accommodations will be available at 3 p.m. arrival day and reserved until noon on departure day.

**Overflow hotel:** [Crystal Inn Hotel & Suites](#) (230 West 500 South, Salt Lake City, UT 84101) The NWA room blocks are now closed at both hotels.

## Complimentary Airport Shuttle

**Sheraton:** Airport to the Hotel: Attendees must call the hotel at 801-401-2000, after retrieving your luggage. The operator will let you know which gate to proceed to for pick up. Hotel to Airport: This shuttle will run every 30 minutes when departing the hotel. An announcement will be made in the main lobby prior to departure.

**Crystal Inn & Suites:** Airport to the Hotel: Upon arrival at the Salt Lake International Airport and after retrieving your luggage, look for the courtesy phones near the exit doors. The phone labeled "Crystal Inn Hotel and Suites – Salt Lake City" will dial directly to the hotel's front desk for pick up. Alternatively, after retrieving your luggage, call the hotel's front desk at: (801) 328-4466. Check with the hotel front desk for hotel to airport shuttle services to the airport.



**Our full agenda  
is now online!**

## ***"Building a 21st Century Weather Enterprise: Facilitating Research to Operations – Optimizing Communication and Response"***

Among the greatest challenges for the Weather Enterprise in the 21st century is to produce the highest level of science-based hazard information, while at the same time communicating the associated uncertainty, impacts, and risks in a manner that results in the maximum benefit to society. Events such as the Moore and El Reno tornadoes in Oklahoma and the Yarnell Hill and Rim wildfires in the Western U.S. highlight the need for both excellent forecasts and effective communication. The results from innovative research must be efficiently transferred to governmental and commercial providers of environmental information services. Additionally, forecasts must be effectively communicated in a manner that elicits an informed response by private citizens, organizations, businesses, and emergency managers and other first responders. Given these challenges, the focus of the 2014 NWA Annual Meeting will be to share research results that can improve operations and on communication platforms and methods that promote appropriate societal response.

## Important Dates:

- 1 Oct. Deadline for abstract corrections
- 10 Oct. Online registration ends. *Walk-up registration will be at the meeting.*
- 18 Oct. Annual Meeting Begins, NWA Scholarship Golf Outing at [Stonebridge Golf Club](#), Exhibits start setting-up
- 19 Oct. Broadcast Meteorology Workshop, Exhibits Open, Seventh Annual Student Session
- 20-23 Oct. General Sessions
- 20 Oct. Icebreaker at [The Leonardo](#) from 6 - 9 p.m. (see photo above!). It is walking distance from the Sheraton! *If you require assistance in getting to The Leonardo, talk to staff at the registration desk.*
- 21 Oct. Women's Luncheon
- 22 Oct. NWA Awards Luncheon

*For more information on exhibits, special accommodations, registration and the overall meeting program, keep checking the 2014 Annual Meeting Page (<http://www.nwas.org/meetings/nwa2014/>) or contact the NWA office at (405) 701-5167.*

*NWA will provide updates on-line, on the NWA 2014 Annual Meeting Facebook Page, NWA Facebook Page, Twitter and other social media. Please use the hashtag #NWAS14 for 2014 Annual Meeting posts and follow those posts using Tagboard.*

## Contacts:

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and Geographic Sciences*

Silver Sponsor



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Meeting sponsorship  
opportunity information*



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activities in Salt Lake City:

[www.visitsaltlake.com/nwa/](http://www.visitsaltlake.com/nwa/)



2014 NWA sponsored Annual Meetings, Conferences and Special Events (*click titles to view websites*)

Oct. 18–23: 39th NWA Annual Meeting

It will be held in Salt Lake City, Utah (#nwas14) at the downtown Sheraton Hotel. Online registration is open through Oct. 10. After Oct. 10, walk-up registrations will be accepted at the Annual Meeting. See page 6 for additional details.

Oct. 17–22, 2015: 40th NWA Annual Meeting (No web site yet; just save the date!)

The Renaissance Oklahoma City Convention Center Hotel is the host site for the meeting. Meetings will be held next door in the Cox Convention Center. It is our 40th anniversary, so plan to attend this informative meeting and celebration.

Other Meetings, Conferences and Special Events

Nov. 1: National Weather Festival

Hosted by the National Weather Center, this free event will be 9 a.m. to 1 p.m. in Norman, Oklahoma. Guests will be able to view the National Weather Service forecast areas, check out the emergency response vehicles, watch hourly weather balloon launches and much more.

Nov. 3–7: 27th Conference on Severe Local Storms

It will be at the Madison Concourse Hotel in Madison, Wisconsin.

Nov. 19–21: 2014 FLASH Annual Conference – Resilience Revolution

The Federal Alliance for Safe Homes will hold this year's event in Orlando, Florida, discussing resilience through building codes and construction practices, policy, research, and communications.

January 4–8, 2015: 95th AMS Annual Meeting

Planned for Phoenix, Arizona, the theme is: Fulfilling the Vision of Weather, Water, and Climate Information for Every Need, Time, and Place.



## Speed Mentoring & the 39th Annual Meeting

Calling all students and early career professionals! Would you like to talk to professionals in the field of meteorology and the related sciences?

We have the event for you! During the student conference on Sunday, speed mentoring will take you on a whirlwind connection frenzy that could connect you to your future co-workers.

Just like speed friending, speed mentoring is an opportunity to meet a lot of people in a short amount of time. We have more than 20 mentors across all sectors of meteorology who want to meet you!

Google+

<https://plus.google.com/events/cvaqio0vnej8icaicdeoe13erm8>

Facebook

<https://www.facebook.com/events/522714891206930/>

Check out sites for the NWA's  
newest corporate members!

[Center for Climate Change Communication](#)

[Hwind Scientific](#)

[iWeather.net.com](#)

[OU College of Atmospheric & Geographic Science](#)

[WeatherBELL Analytics](#)



## IMPORTANT DATES

### October 14-15

Northern Plains Winter Storm Conference (2014NPWSC) in Saint Cloud, Minnesota.

### October 18-23

39th NWA Annual Meeting ([see page 6](#)) or [click here](#) for more. Contact [exdir@nwas.org](mailto:exdir@nwas.org) to volunteer to help with the planning and programming.

### November 15

Application period for 2014-2015 NWA scholarships Pike, Phillips and Glahn close. [Click here for more.](#)

### Oct. 17-22, 2015

40th NWA Annual Meeting will be in Oklahoma City. Save the date - four decades is a lot to celebrate!

NWA Newsletter (ISSN 0271-1044)

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Published monthly by the National Weather Association, 350 David L Boren Blvd Ste 2750, Norman, OK (USA) 73072-7125; phone ~ (405) 701-5167; [exdir@nwas.org](mailto:exdir@nwas.org); [www.nwas.org](http://www.nwas.org).

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

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