

# NWA NEWSLETTER

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## Important Dates

March 15: Deadline for submitting abstracts to the 41st Annual Meeting (see page 6)

March 31-April 2: 20th Annual Severe Storms & Doppler Radar Conference

Sept. 10-15: 41st NWA Annual Meeting (see page 6)

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



2016

# ELECTION RESULTS

Congratulations to the new officers and councilors, and thanks to all the candidates!



President-Elect 2017 Gail Hartfield-Supina



Vice-President William Murray



Secretary Randy Graham



Councilor 2016-2018 Susan Jasko



Councilor 2016-2018 Nate Johnson



Councilor 2016-2018 Jennifer McNatt



Councilor 2016-2018 Greg Stumpf

The individuals above join the following NWA Council members in leading your association:

President: David Freeman
Immediate Past President: Elizabeth Page
Treasurer: Alan Gerard

#### Councilors:

John Gagan Mike Goldberg Chuck Graves Elise Schultz Trisha Palmer Todd Lericos Pat Spoden Nick Walker

Student Councilor: Sarah Trojniak

The bylaw proposal passed making the Vice President position a two-year term.

#### **NWA Annual Awards Program**

We invite you to nominate individuals, teams or organizations whose outstanding efforts in operational meteorology and related sciences deserve special recognition.

Nominations are now being accepted through June 13 for the 2016 NWA Annual Awards.



(Please note that the deadline is earlier this year than previous years).

Click for the Award Nomination Form

#### New Broadcast Seal Holders

The National Weather Association is proud to introduce our newest NWA Seal holders: Felicia Combs and Belen de Leon.

## Scholarship/Grant Opportunities from NWA Chapters

The <u>Central Iowa NWA Chapter</u> offers the Annual Pam Daale Memorial Scholarship

- o The scholarship amount is \$1750.
- o The deadline is in February.

<u>The Memphis, Tennessee, Chapter of the AMS/NWA</u>

- o For Memphls area students.
- o The scholarship amount is \$500.
- o The deadline is in May.







Felicia Combs is making an exciting move back to her home state of Florida in January after

providing forecasts, fun and frivolity each morning for the Ozarks region of Missouri. Beginning in 2016 she will be part of the morning team on WPTV/WSLX in West Palm Beach.

Felicia has most recently served as the morning meteorologist at KYTV in Springfield, Missouri. Prior to that she worked for 2 1/2 years in Macon, Georgia, as the weekday morning weather anchor.

Felicia is now a proud holder of the NWA Broadcast Seal of Approval. She earned her degree in broadcast journalism

from the University of Central Florida and a degree in meteorology from Mississippi State University. While in college in Orlando, Felicia interned at some of the top stations in the city.

Belen De Leon is the weekend meteorologist at KUSA in Denver, Colorado. She grew up in the small border town of Roma in South Texas and was a performer at an early age, participating in band, choir, drama, and mariachi. Right out of high school, she joined a regional Mexican band named La Onda and signed a record deal with Capital EMI. The group recorded four albums and traveled the U.S., Mexico, and even South America performing to sold-out crowds.



Belen made a dramatic career change in August 2007, accepting the position as a weather forecaster for the local Univision and Fox affiliates. She later joined KUSA in February 2012 as the weekend forecaster. She's been nominated as one of America's Favorite Weather Forecasters through Weatherist. One of her biggest accomplishments while in Denver has been becoming a certified meteorologist through Mississippi State University in August 2013. And now she has earned the NWA Broadcast Seal of Approval.

Belen is also a wife and mom. She's always looking for a good trail to hike with her husband and enjoys dance parties in the living room with her three young boys. But on air, if viewers are lucky, she might spontaneously belt out a song during her forecasts.

Hearty congratulations to these two newest Seal holders. Their dedication to excellence is herein recognized as they enter a company of professionals who hold the highest standards of broadcast meteorology. It is a mark of distinction and credibility that sets them apart from others.

The NWA would like to sincerely thank everyone for their generous contributions in the year 2015.

These donations help support the general operations of the NWA along with supporting our grant and scholarship programs.

The NWA also thanks attendees at the 40th Annual Meeting in Oklahoma City for their participation in the golf outing, forecast contest and other contributions that directly benefited the scholarship funds.





# Better Science, Better Communication, Better Results President's Message By Dave Freeman

"The only thing harder than predicting the atmosphere is predicting humans!" was my frequent reminder to my oldest son as he earned a master's degree in economics. But



the joke was on good ol' Dad: it turns out that the American weather enterprise is having to give greater and greater attention to the human factor in warnings and forecasts. It is no longer enough for us to sit on the mountaintop dispensing meteorological wisdom. For our service to be effective, we have to learn more about the science of communication.

So this is my invitation and challenge to all of us who make up the National Weather Association in 2016: Better Science, Better Communication, Better Results. The foundation, of course, is the NWA's long history of encouraging research that is operationally oriented. The NWA is the place where the rubber meets the road, where operational forecasters research the problems and challenges they encounter in daily work, and where they share their learning to help others provide better service. I can't tell you how many times I have come away from the NWA Annual Meeting and immediately put new ideas and knowledge to use in my work.

But one thing many of us have learned is that the best warning, or the best forecast, in the world does no good if it is not understood and acted upon by the people we serve. The NWA has been at the forefront of welcoming colleagues from the social sciences into our big tent. Just as our knowledge of atmospheric processes is constantly expanding, we need to exhibit the same spirit of learning in effective communication. There are some major initiatives underway right now that demonstrate this commitment, including the National Weather Service's Hazard Simplification program. I firmly believe that this is the time for meteorologists to model the spirit of collaboration with our social science colleagues, each learning from the other.

A wise person once suggested at an NWA Annual Meeting that the effectiveness of any warning, in the end, is measured by whether people got the message and took appropriate action. That's where Better Results come in. Most operational meteorologists I know take it personally to some degree when a weather disaster takes lives. We know we can't save every person, every time, and we don't like it. But if we rise to the challenge of constantly improving our understanding of the science of meteorology, while incorporating the social sciences, we can achieve Better Results for the people we serve.

Welcome to another exciting year of learning, collaboration and progress in the National Weather Association.

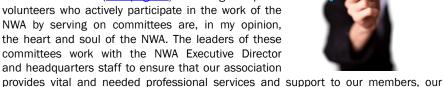
### Recognition of and Thanks to a Special Group of Volunteers

Ken Carey, Commissioner of Committees

The NWA enjoyed a fantastic year including a record-setting annual meeting, our first in a series of monthly webinars to inform and engage our members, formation of new local chapters, numerous noteworthy articles published in our electronic Journal of

Operational Meteorology, and a new overdue effort to thank those who volunteer to get involved and support the mission of the NWA.

We want to start off 2016 by recognizing an incredibly valuable and vital group of volunteers: the NWA Committee Chairs (see page 8). Our large corps of volunteers who actively participate in the work of the NWA by serving on committees are, in my opinion, the heart and soul of the NWA. The leaders of these committees work with the NWA Executive Director and headquarters staff to ensure that our association



constituents and communities.

Please join me in thanking the following NWA Committee Chairs who are rotating off as committee chairs:

- Christina Crowe (Weather Analysis and Forecasting)
- Greg Carbin (Professional Development)
- Brad Herold (Information Technology)
- Miles Muzio (Broadcast Meteorology)
- Chris Dunn (Broadcast Seal)
- Kevin Barjenbruch (Societal Impacts of Weather and Climate)
- Patrick Marsh and John Ferree (Annual Meeting 2015 Program)
- Frank Alsheimer (Social Media)

We owe them our admiration, gratitude and thanks for their service and a job well done!

### FEBRUARY 3 WEBINAR

"Enhancing Impact-Based Decision Support Services in the GOES-R Era Using High-Temporal Satellite Imagery"

Presenter: Dr. Chad Gravelle

The Geostationary Operational Environmental Satellite R series (GOES-R) is scheduled to launch in 2016 with data, imagery, and products that have increased spectral, spatial and temporal resolutions. These advanced capabilities allow forecasters to better monitor the atmospheric conditions preceding and associated



with high-impact weather (e.g., deep convection, fog and low stratus, airborne dust and wildfire behavior). Most importantly, the latency of the data, imagery, and products will drastically improve in the GOES-R era. This will allow forecasters to analyze atmospheric features while they are happening, as opposed to what has already happened. The ability to synthesize these data sets with other sources of short-term information directly into the forecaster decision support, in near real-time, will lead to enhanced situational intelligence. This is significant because if forecasters can identify critical features and thresholds easier and more accurately, impact-based decision support services (IDSS) can be elevated by communicating reliable hazardous weather information to National Weather Service (NWS) partners. Since 2008, the GOES-R Proving Ground, and more recently assisted by the Operations Proving Ground, has evaluated demonstration GOES-R products and capabilities with NWS forecasters. One of the goals of these evaluations has been to understand how these new capabilities can be integrated into NWS operations to enhance IDSS. This presentation will show how integrating satellite information with other datasets can enhance forecaster situational intelligence during high-impact weather and how forecasters can use this added knowledge to help NWS partners better understand the impact of environmental threats.

Register here for this NWA Webinar that will be held Wednesday, Feb. 3, at 1 p.m. EST. Space is limited to 100 registrants. The webinar will be recorded and made available online.

### Student Presentation Award Winners at the 4oth Annual Meeting

The winners of the best student presentations were announced at the NWA Awards Luncheon during the 40th Annual Meeting in Oklahoma City, Oklahoma, October 21, 2015.

First Place Undergraduate Student Poster Presentation

#### Lynnette E. Grant

Valparaiso University, Valparaiso, Indiana

The Color Conundrum: The Many Variations of One Watch or Warning

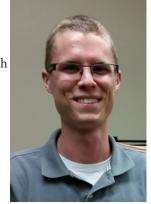


Second Place Undergraduate Student Poster Presentation

#### **Brett Borchardt**

University of Oklahoma, Norman, Oklahoma

Operational
Uses of
Spectrum Width
to Improve
Warnings for
Quasi-Linear
Convection in
the Western
Great Lakes



Third Place Undergraduate Student Poster Presentation

#### Benjamin C. Trabing

University of Oklahoma, Norman,Oklahoma

Lightning Activity in 2014 Atlantic Tropical Cyclones



Best Undergraduate Student Oral Presentation

#### Matthew J. Bolton

Pasco-Hernando State College, Dade City, Florida

Learning Disorders and the Meteorological Community: Implications for Communication and Education





Best Graduate Student Oral Presentation

#### Katie A. Bowden

University of Oklahoma, Norman, Oklahoma

Eye-Tracking During the Forecaster Warning Decision Process: A Pilot Experiment

First Place Graduate Student Poster Presentation

#### Robert A. Clark III

University of Oklahoma, Norman, Oklahoma



Towards Hazard Services Recommenders for Flash Flood Forecasting Second Place Graduate Student Poster Presentation



Galateia Terti University of Oklahoma, Norman, Oklahoma

Target the Warnings: Probabilistic Flash Flood Casualties Prediction Third Place Graduate Student Poster Presentation

#### William G. Blumberg

University of Oklahoma, Norman, Oklahoma

Insights
Regarding the
Use of Ground
Based Spectral
Infrared
Thermodynamic
Sounders in
Forecasting



Deep Convection

# Journal of Operational Meteorology



This month marks the three-year anniversary of the JOM. In January 2013 the NWA Digest and the NWA EJOM merged into the all-electronic journal.

Click for the National Weather Digest - published from 1976 to 2012

Click for the NWA EJOM - published from 2000 to 2012.

During these three years the JOM has had a total of 58 publications. The JOM transitioned to an open access journal earlier this year. As such, all

articles, are available <u>free of charge</u>. Published by the NWA, JOM covers topics relevant to all aspects of operational meteorology on a range of time and space scales.

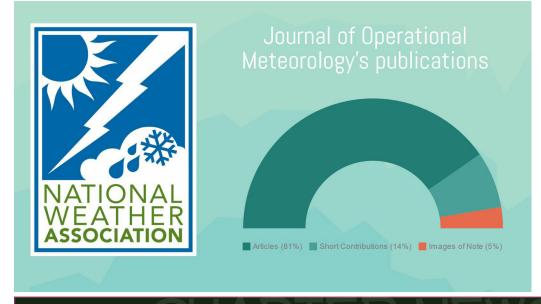
There are four categories of JOM publications: Article, Short Contribution, Images of Note and Commentary.

Suitable topics include new or improved forecasting and warning techniques, verification studies, applications of observations and models

to improve forecasts and warnings, and case studies of major weather events. Climatological studies, interdisciplinary studies, and studies documenting education and training practices also will be considered if relevant to operational meteorology. In addition, the editors welcome submissions that present strategies for the creation and dissemination of forecasts and warnings that maximize the protection of life and property.

JOM is a peer-reviewed journal with an international scope, providing authors with the benefits of economical publication costs and rapid publication following acceptance.

Thank you to the JOM authors, reviewers and editors for continuing to make JOM a success. Visit the JOM page for more information about JOM and instructions on how to submit articles.



## CHAPTER NEWS

## **High Plains NWA Chapter Meeting**

William Taylor, President Wesley Hovorka, Secretary

The NWA High Plains Chapter had 20 members teleconference Dec. 9. The brief meeting began with a business discussion with no new information on the High Plains Conference for next year in North Platte, but a few ideas have been discussed and committees have been established. We submitted applications for chapter of the year to the AMS and NWA. No other new or old business was discussed.

This month's presentation was from Greg Carbin, the Warning Coordination Meteorologist of the Storm Prediction Center in Norman, Oklahoma. His presentation was on his top 10 weather events of 2015. A few days before the meeting, Greg informed the chapter that he would be working midnights during the time he was going to present and decided to record a YouTube presentation for us to watch at our leisure. Each office, and other participants, watched the presentation after the meeting was adjourned.

The events, not in any particular order, consisted of the following.

- The Boston winter snowstorm, Jan. 26-28
- 2. The low number of watches issued during the winter months January-March
- 3. Did El Nino affect the amount of severe storms during April-July?
- 4. The Fairdale, Illinois, EF4 tornado April 9
- 5. May, the wettest month on record
- 6. The Western U.S. continued heat and drought
- 7. The Western U.S. wild fires due to heat and drought
- 8. Deadly flash flooding in southern Utah, Sept. 14
- 9. Hurricane Joaquin and rainfall across South Carolina in early October
- 10. High Plains tornado outbreakm Nov. 16

The next meeting is scheduled for early February.

www.highplains-amsnwa.org

# Call for abstracts: 41st NWA Annual Meeting, September 10-15, 2016

Location: Norfolk, Virginia

41st NWA Annual Meeting Venue and Hotel:

Norfolk Waterside Marriott, 235 East Main Street, Norfolk, VA 23510

Theme: Better Science, Better Communication, Better Results

Operational meteorologists constantly strive to improve the science behind the forecast. We also want to make sure the people we serve receive, understand and then act on the information that we provide. If we utilize the best possible science and are effective communicators, lives will be saved and impacts to the economy minimized. Join the National Weather Association in Norfolk and help the weather enterprise advance on this path of service.

#### Important Dates in 2016

- Abstract Submission Deadline: March 15
- Oral and Poster Presenters Notified: April 15
- Preliminary Agenda Posted On-line: July 1
- **2016 NWA Annual Meeting:** September 10-15

#### Schedule of Events

- Broadcast Meteorology Workshop: Sunday, September 11
- Ninth Annual Student Session including Speed Mentoring: Sunday,
   September 11
- General Sessions: Monday-Thursday, September 12-15
- NWA Annual Awards Luncheon: Wednesday, September 14

#### **Abstract Submission**

Submit abstracts for oral and poster presentations by March 15, 2016

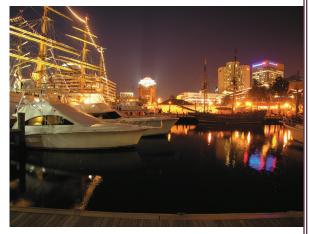
In addition to the traditional sessions on severe weather, weather and forecasting, etc., the Program Committee is specifically soliciting abstracts which relate to one of the following sub-themes:

- Coastal Flooding, Storm Surge and Sea Level Rise
- Integration of New Technology (Dual-pol, GOES-R/JPSS, MYRORSS, Proving Ground, FACETS)
- Advances in Numerical Weather Prediction (Warn-on-Forecast, Storm-Scale Ensembles)
- Innovations in Communicating High-Impact Weather Events (Social Media, Commercial Services, Simplification)
- Case Studies of High-Impact Events
- Weather Support for the Armed Forces

Abstracts should be sent via the on-line form on the NWA website at: <u>2016 NWA Annual Meeting Abstract Submission Form</u>. If you are unable to submit your abstract via the on-line form, please contact the NWA office at 405-701-5167 or e-mail: nwahelp@nwas.org.

The Program Committee will notify presenters, via e-mail, regarding the disposition of their abstracts by April 15. A preliminary agenda will be posted on the NWA website by early July for presenters to review.

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



The Annual Meeting Program Committee Co-Chairs are:

Ken Carey

ERT, Inc Laurel, MD 20707

annualmeeting2016@nwas.org

Mike Vescio

NOAA National Weather Service Pendleton, OR 97801

annualmeeting2016@nwas.org

The Broadcaster Workshop Program Chair:

Mike Goldberg

WTVR-TV

Richmond, VA 23230

broadcasterworkshop2016@nwas.org

#### Additional Information

For more information on exhibits, special accommodations, registration and the overall meeting program, keep checking the 2016 Annual Meeting Page and its links, or contact the NWA office: 405-701-5167 or <a href="mailto:nwahelp@nwas.org">nwahelp@nwas.org</a>.

NWA will provide updates on this Web page, on the <u>NWA Facebook Page</u>, <u>Twitter</u> and other social media. Please use the hashtag <u>#NWAS16</u> for any tweets associated with the 2016 Annual Meeting.



Photo courtesy of Visit Norfolk

# 41st NWA Annual Meeting, Hotel Details

Meeting Venue and Hotel: Norfolk Waterside Marriott, 235 East Main Street, Norfolk, VA 23510

(http://www.marriott.com/hotels/travel/orfws-norfolkwaterside-marriott/)

Reservations may be made online or by call 1-800-874-0264 and tell you're attending the National Weather Association meeting.

The room block is open until August 17, 2016, or until the NWA block is full.

#### Hotel rates are as follows:

Number of Guests 1-4 Nightly Rate Before Tax: \$87.00 Click to make your reservation http://goo.gl/G8OzpV

- Prices listed are per night and do not include tax or fees.
   The current tax rate is 14% and/or \$2.00 per room night occupied. Rates are subject to change.
- When requesting the room, they will ask how many will occupy the room. This will enable them to provide the correct type of room for the number of guests. (i.e., one bed vs. two beds). Rooms with two double beds cannot be guaranteed in advance unless this request appears as confirmed on your reservation.
- All reservation requests will require a credit card or a one room night deposit, to guarantee the room. Any deposits will be refunded for rooms canceled more than 72 hours prior to scheduled arrival. If you do not check into the hotel on your scheduled arrival date and do not cancel more than 72 hours in advance, one (1) room night cost will be charged to the credit card used to guarantee the room.
- Name changes to room reservations may be made up to one day prior to arrival.
- Check-in is available after 4 p.m. on arrival day; check-out is at 11 a.m.
- Complimentary Internet in all NWA attendee guest rooms.
- The hotel has a smoke-free policy.

#### Additional Information

- Reduced overnight Self-Parking of \$14 (Main Street garage only). A 6% tax will apply.
- Valet parking is available for \$26/day for hotel guests.
- Taxi rides between the airport and hotel average around \$30. The hotel does not provide shuttle service.

The meeting sessions will be held at the hotel. <u>Visit Norfolk</u> has more info restaurants, transportation and activities in the Norfolk area.





#### NEW NWA MEMBERS

Please welcome these members who joined the NWA in December 2015!

#### Regular/Retired/Military

Kevan Smith Robert Welch John Cannon Brooke Bingaman

#### **Student Members**

Minh Phan Kelly Dobeck Andrew Caulder **Corporate**The Aerospace Corporation



### NWA Committee Chairs - 2016

**Commissioner of Committees:** 

(non-voting, appointed member of the NWA Council)

Kenneth (Ken) Carey

**2016 Annual Meeting Program Co-Chairs:** 

Kenneth (Ken) Carey Michael Vescio

**Aviation Meteorology Committee:** 

Jim Reynolds

**Awards Committee:** 

Jeffry Evans

**Broadcast Meteorology Committee:** 

Nate Johnson

**Seal Committee Chair:** 

Josh Rubenstein

**Digital Seal Evaluation** 

**Board members:** 

John Hart

Mike Mogil

Bill Murray

Larry Rice

Dr. Bohumi Svoma

**Seal Evaluation Board members:** 

Spencer Adkins

**Justin Chambers** 

Corey Christiansen

James Paul Dice

Crystal Egger

Fidel "Phil" Ferro

Jose M. Garcia Jr.

Rob Haswell

Seal Evaluation Board members continued:

**Jason Nicholas** 

Byron Morton

Morgan Palmer

Mike Rawlins

Dr. Scott Rochette

Josh Rubenstein

Ben Schott

Tim Simpson

Benjamin E. Smith

Roland Steadham

Keith Stellman

Tammie Souza

Chris Tomer

John Toohey-Morales

Ken Waters

Mike Witcher

Jennifer Zeppelin

**Seal Recertification Chair:** 

Shawn Cable

**Seal Testing Chair:** 

Dr. Pat Market

**Seal Public Relations Chair:** 

**Betsy Kling** 

**Broadcast Meteorology** 

Workshop Chair:

Mike Goldberg

**Diversity Committee:** 

Faith Borden

Jennifer Hogan

**Education Committee:** 

Jeffrey S. Tongue

Membership and Marketing

**Committee:** 

Shelby Hoppens Bruce Iones

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**Nominating Committee:** 

Gail Hartfield

Professional Development

**Committee:** 

Trisha Palmer

**Publications Committee:** 

Dr. Patrick Marsh

**Remote Sensing Committee:** 

Dan Satterfield

Social Media Committee:

Trevor Boucher

Societal Impacts of Weather and

**Climate Committee:** 

Jen Henderson

**Specialized Operational Services** 

**Committee:** 

Richard Okulski

**Strategic Planning Committee:** 

Nezette Rydell

Weather Analysis and Forecasting

Committee:

Dan Gallagher

Dali Galiagliei

Chairs' contact info is at www.nwas.org/committees

# PROFESSIONAL DEVELOPMENT & EVENTS

### NWA Sponsored Meetings, Conferences & Special Events in

**2016** (Click titles for more)

41st Annual Northeastern Storm Conference (NESC): March 4 - 6 To be at the Holiday Inn in Saratoga Springs, New York.

21st TESSA National Storm Conference: March 5 Hosted by the Texas Severe Storms Association (TESSA) and co-supported by the North Texas Chapter of the AMS & NWA, presentations will include the December 2015 North Texas tornadoes, new generation above-ground storm shelters and Super Storm Spotter training. Free and open to the public, it will be in Colleyville, Texas.

## 20th Annual Severe Storms & Doppler Radar Conference: March 31-April 2

It will be in Ankeny, Iowa, at the Courtyard by Marriott.

#### 41st NWA Annual Meeting: September 10-15

"Better Science, Better Communication, Better Results" is the theme of the 2016 Annual Meeting being held in Norfolk, Virginia. Operational meteorologists constantly strive to improve the science behind the forecast. We also want to make sure the people we serve receive, understand and then act on the information that we provide. If we utilize the best possible science and are effective communicators, lives will be saved and impacts to the economy minimized. Join the National Weather Association in Norfolk and help the weather enterprise advance on this path of service. Please see pages 6 & 7.

#### Other Meetings, Conferences & Special Events

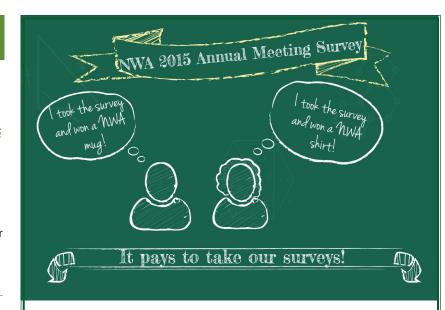
#### National Weatherperson's Day: February 5

#### National Tornado Summit: March 1-2

Held in downtown Oklahoma City, the National Tornado Summit improves disaster mitigation, preparedness, response and recovery in order to save lives and property in the U.S. In addition, the summit serves as a national forum for insurance professionals and regulators as well as international, national and state experts to exchange ideas and recommend new policies to improve emergency management.

# 2016 National Earthquake Conference: May 4-6, 2016, Hilton Long Beach, California

Presentation ideas on preparedness, response, recovery, resilient communities and risk communication are being requested by Jan. 29.



Here are the randomly picked winners who took our Annual Meeting Survey:

Receiving \$100 off of the registration fee to the 41st NWA Annual Meeting in Norfolk, Virginia:

Nina Jackson Kevin Phelps Damon Matson Bernard Meisner Chelsea Kryston Zac Schweizer Brooks Garner Stephan Konarik Receiving an NWA shirt:

Doug Meyers Steven Fleegel Patrick Burke Mike Schichtel Robert Clark

Receiving an NWA 40th Anniversary

Mug:

Michael Eckert David Pearson Wendy Abshire Matt Alto John Troutman



#### Newsletter Submissions

We welcome Newsletter article submissions from members. Send articles by the 15th of each month to nwanewsletter@nwas.org 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/.

# NWA Newsletter (ISSN 0271-1044)

Editor and Publisher:

Janice Bunting, NWA Executive Director

Communications Coordinator: *Hulda Johannsdottir, NWA* 

Technical Editor: Winnie Crawford

Design/Layout: Mollie Doll,

**Treefrog Resources** 

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Submit newsletter items to <a href="mailto:nwanewsletter@nwas.org">nwanewsletter@nwas.org</a> using the Instruction for Authors at

www.nwas.org/newsletters/newsletter\_instructions.php.

Members receive the Apex award winning Newsletter online and access to an online 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.