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

No. 13 - 11

### Newsletter NOVEMBER

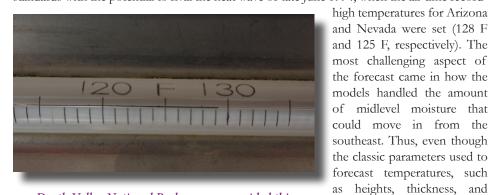
2013

### The Southwest Sizzle of 2013

Chris Stachelski National Weather Service, Las Vegas, Nev.

During the closing days of June 2013, an area of high pressure aloft built northward into the southwestern United States. As the high built toward the Four Corners region, it amplified and then gradually shifted west toward Nevada. The high remained over Nevada through the Fourth of July when an approaching trough in the mid- and upper levels of the atmosphere helped to weaken it by July 5.

Up to a week in advance, computer models were in excellent agreement that this area of high pressure would have the potential to produce searing heat even by Southwest standards with the potential to rival the heat wave of late June 1994, when the all-time record-



Death Valley National Park rangers provided this photograph of the official thermometer 129 F reading on June 30, 2013, which set an all-time June record high.

it would get and how long it would last was how much cloud cover would occur.

About a week before the event, the NWS Office in Las Vegas sought to communicate the impacts and historical content for this heat wave through our Area Forecast Discussions, email briefings to emergency managers, and graphics and text posts distributed through our website, Facebook and Twitter. Other NWS offices in the southwestern United States did the same. Even though the forecasts called for record heat, the forecast uncertainty in cloud cover and its potential impact on temperatures was included. As this event drew closer, it appeared that moisture would not be significant enough to limit the duration of this event nor to keep temperatures from potentially hitting all-time highs. The forecast temperatures and

See SIZZLE page 2

temperatures aloft, supported

record heat, the deciding

Time to vote for the 2014

NWA Council, Officers and
bylaw changes! You should
have alreday received your
ballot in the mail. Mail in
your vote or cast it through
the Member Portal by Dec. 31.

See page 4 for details.

Special Lifetime
Achievement Award



Charles A. Doswell III
Doswell Scientific Consulting

For his exceptional service and contributions to the operational forecasting and research communities through high–quality scientific research, educational workshops, and mentorship of colleagues and students. *More awards page 2.* 

## INSIDE THIS EDITION ... 2012 NWA Annual Awards Presented 2 2013 Sol Hirsch Grant Recipients 7 President's Message 3 Central Iowa Chapter News 7 The Storm of 1913 3 Professional Development 8 2013 NWA Annual Awards 4 In Memoriam: Peter Leavitt 9 2014 Elections, Bylaw Changes 6 New NWA Members 9

### 2012 Awards Presented at the 2013 Awards Luncheon



Read (right) receives the award from NWA President Bruce Thomas.

### J. Kevin Lavin Leadership Award Bill Read

For outstanding leadership and service to the National Weather Association (NWA) and Weather Enterprise as National Hurricane Center Director, MIC WFO Houston, and Past President and Councilor for the NWA.

### Lifetime Achievement Award Lance Bosart

State University of New York, University at Albany

For over 40 years of contributions to meteorology through operationally-relevant research, direct interactions with forecasters, and educating a generation of researchers, professors, forecasters, and NOAA employees.



Pictured: Bosart and his wife, Helen.

### SIZZLE from page 1

confidence factors were adjusted accordingly.

Despite being a city known for frequently recording triple-digit high temperatures in the summer, heat is the number one weather-related cause of death in Las Vegas. Knowing this, even though we communicated the historical content and duration of this heat wave as well as possible, we decided to include the potential threat to human and animal life in the information. We emphasized preparedness tips such as how to care for cars, homes, pets, and planning time outdoors for work

planning time outdoors for work and leisure activities. We also referenced the number of heat-related deaths in Las Vegas during July 2005 when the city reached the all-time record high temperature of 117 F for only the second time since record-keeping began in 1937.

The media response to our products was tremendous. NWS Las Vegas took calls from not only the local media, but also national and international media. We gave information to every major national network in the United States, the British Broadcasting Company, and radio stations in Europe as far away as Germany. While many of the questions dealt with what caused the heat, what were the impacts, heat death statistics and how people here were handling it, there were also questions we are rarely asked: what is the official equipment used and where is it located?

Often, television interviews with our staff are at the office with video showing a forecaster talking during the interview or monitoring the weather on a computer. Instead, we got requests for pictures of the instruments. While our local stations sought out the official instruments in Las Vegas at McCarran International Airport, national and international media attention focused on Death Valley, Calif., which also had the potential to see its highest June temperature. Suddenly, a simple piece of weather equipment in a fenced enclosure at the Furnace Creek Visitor Center in Death Valley was getting the exposure of a celebrity on the Las Vegas Strip.

The highest temperature in Las Vegas at the official long-term climate station at McCarran International Airport reached



The weather station at Furnace Creek in Death Valley, Calif.

117 F on June 30, which tied an all-time record high for the city in any month and set a new all-time record high for June. In Death Valley, the high reached 129 F, which set a new all-time record high in June at this location. The 129 F observation would also tie the all-time United States June record high set on June 23, 1902, at Volcano, Calif. When both records were reached, we photographed the readings and distributed the photos promptly to provide visible credibility to the readings. This ensured, for the first time, that an official mercurial thermometer was photographed reading 129 F for a high temperature. Rarely are the meteorological measurements of extreme events photographed as evidence for the climate record.

This event showed that whether one works for the NWS, a private weather forecasting firm, the media or academia, understanding how weather elements are recorded is important, especially when high profile records come into play. While the temperature sensor at a weather station may never get airtime on CNN like the one at Death Valley, here are some things to consider:

- Understand the different types of equipment used to record weather and how the equipment works.
- Provide training on the weather equipment at workshops or through a website or social media.
- Know how to access a weather station and take pictures or video of it or have photos and video on hand.
- Know the history of a weather station, especially high profile locations where the media and public are frequently interested in or in locations more likely to record an extreme event (e.g., is it colder, warmer, wetter, drier or windier than surrounding areas?).
- Establish a relationship with the manual observers at airports, military bases and cooperative weather stations.
- Be familiar with the exposure of the equipment and know how it is maintained. Remember, the equipment may easily show up in photographs and videos.
- Be prepared to address the issue of climate extremes and climate change.

### Giving Thanks for a Great Organization in which to Serve

As we head into the 2013 holiday season it is time to reflect Son the great year we have had and the new friends we have made through the NWA. Serving as President of this tremendous volunteer-led organization has been a life changing experience for me and I am thankful for this opportunity to have served with such a dedicated group of Council members and Executive Staff this year. My hat is off to these folks.



President Bruce Thomas next to the National Weather Center (NWC) sign at the University of Oklahoma in Norman. The new NWA headquarters will be near the NWC.

The work our organization does to promote operational meteorology across America is evident in every local, regional and national meeting we host every year. While visiting several of these meetings, I have had the pleasure to meet and speak with our members about the roadmap for the continued growth and success of the NWA in our new headquarters at the University Research Campus in Norman, Okla., staffed by Janice Bunting, our new incoming Executive Director. This, too, is one of the things I am most thankful to have seen come to fruition during my term as your President.

There are many exciting new things to be debated and created in 2014 under the leadership of incoming President Elect Jeffery Cravens, like a possible digital media seal program.

My wish for you and your family is to have a safe holiday season and remember to lead by example in practicing weather safety and spreading a unified message about weather safety preparedness to the public, as well as your friends and family. We live in a dynamic weather pattern in the United States that makes our work as operational meteorologists so very challenging. Please remember to slow down and enjoy the season with the ones you love and the people who are most important in your lives.

God's Peace and Safety,

Bruce Thomas NWA President

### Centennial Anniversary Storm of 1913

Source: The National Oceanic and Atmospheric Administration

In November of 1913 the Great Lakes were struck by a massive storm system combining whiteout blizzard conditions and hurricane force winds. The storm lasted for four days, during which the region endured 90 mile per hour winds and waves reaching 35 feet in height. With only basic technology available, shipping communication and weather prediction systems were not prepared for a storm of such devastating force. When the skies finally cleared, the Great Lakes



Weather map (above) and weather prediction equipment - both circa 1913 (Courtesty of NOAA)

had seen a dozen major shipwrecks, an estimated 250 lives lost, and more than \$5 million in damages (the equivalent of more than \$117 million today).

Nicknamed the Hurricane" and the 'Freshwater Fury" the 1913 storm remains the most devastating natural disaster to ever strike the Great Lakes. One hundred years later, NOAA commemorates the Storm of 1913 not only for the pivotal role it plays in the history of the Great Lakes but also for its enduring influence. Modern systems shipping communication, weather prediction, and storm preparedness have all been fundamentally shaped by the events of November 1913.



Click below for:

Meteorological details and other historical information about the storm

The Retrospective Numerical Weather Simulation

### 2013 NWA ANNUAL AWARDS

The National Weather Association 2013 Annual Awards were presented by President Bruce Thomas at the 2013 Annual Awards Luncheon on October 16. The luncheon was held during the NWA's 38th Annual Meeting at the North Charleston Convention Center in Charleston, South Carolina.



### T. Theodore Fujita Research **Achievement Award** Paul Markowski Department of Meteorology, Pennsylvania State University

For incisive research directly applicable to operational forecasting which has allowed significant advances in our understanding and forecasting tornadic and nontornadic thunderstorm environments.

### **Operational Achievement Individual Award** Richard Smith

National Weather Service Forecast Office Norman, OK

For outstanding service through the advancement of social media and other visionary tools to save lives, and for selfless service in support of NWS operations before, during and after Oklahoma's deadly tornadoes of May 2013.



MARD

### **Local Chapter Award** North Florida NWA Chapter

For taking chapter involvement in the National Weather Association to another level through innovative member engagement, community outreach, and a general enthusiasm for upholding the ideals of the NWA.



**Aviation Meteorology Award** National Weather Service Weather Forecast Office/ Center Weather Service Unit (CWSU) Albuquerque, NM

For significantly increasing weather awareness and services for aviation around New Mexico and the surrounding area, with an emphasis on coordination with core partners and outreach for the general aviation community.





For her dedication and passion to communicate timely, accurate, and thorough meteorological, climatological, and hydrological issues to the citizens of Nebraska and western lowa for the past 17+ years.

### Member of the Year Award Matthew Bunkers

NWA Publications Committee Chair, Rapid City, SD

In recognition and gratitude for the roll out of the Journal of Meteorology which has greatly enhanced the quality of the association's published research and significantly decreased costs and review time.



### **Broadcaster of the Year Award Brian Lapis**

WWLP22 News (NBC affiliate)

For his superior performance and coverage during the June 1, 2011 EF3 tornado that affected southwest and south central Massachusetts.

NWA President Bruce Thomas (left) gives Lapis his award.



### **Public Education Award** Mike Mogil How The Weatherworks/

Mathworks Tutoring

For his endless passion and desire to educate people of all ages in weather and science through weather camps, outreach events, books, tutoring, mentoring, and more.

### The Larry R. Johnson Special Award Oklahoma Mesonet

For operating a comprehensive observing network with a 20-year legacy of exemplary service for the residents of Oklahoma that earned the title of America's 'gold standard' network from the National Research Council.



Dr. Chris Fiebrich, the Oklahoma Mesonet Associate Director, accepted the Larry R. Johnson award.

### J. Kevin Lavin Leadership **Award** Jane Cage Joplin Citizens Advisory Recovery Team

For her outstanding and selfless service, and exemplary leadership, in helping Joplin, MO rebuild a more resilient community after the catastrophic tornado in 2011.



Our appreciation goes to the Annual Award Committee members for 2013: Chairperson Jeffry Evans, Joseph Dellicarpini, Fred Glass, Chris Higgins, Eric Lenning, Jay Martinelli, David Metze, Dan Miller, Mike Paddock, Kris Sanders, Matt Stalley and Dan Valle.

### **Operational Achievement Group Award** National Weather Service Forecast Office Binghamton, NY



For outstanding service to the citizens of New York and Pennsylvania during the historic flood event on September 6-7, 2011 associated with the remnants of Tropical Storm Lee.

> Visit www.nwas.org for more info on the NWA Annual Awards!

### NATIONAL WEATHER ASSOCIATION 2014 ELECTIONS

Ballots were mailed to all individual NWA members and should be received by late November.

Additionally, dues renewal invoices are included for those members whose membership year expires December 31, 2013. Completed ballots need to be mailed back to the NWA office (228 West Millbrook Road, Raleigh, NC 27609-4304) and postmarked no later than December 31, 2013 or through the Member Portal by December 31, 2013.

Proposed Bylaws Changes are in italics and red

### ARTICLE IV. ELECTIVE AND APPOINTIVE OFFICERS

Current Article IV – Paragraph 4 – If, for any reason, the office of President becomes vacant, the President-Elect will fill the remainder of the unexpired term. If the office of President-Elect becomes vacant, the Vice President shall fill the remainder of the President-Elect's term and shall then progress to the office of President at the next normal rotation. In such a case, all vacant positions shall be filled at the next annual election. If the office of the Vice President, Secretary or Treasurer becomes vacant, the Council shall appoint a member of the Association (by majority vote) to fill the remainder of the unexpired term.

Proposed Change to Article IV – Paragraph 4 (changes in italics/red): If, for any reason, the office of President becomes vacant, the *Vice President* will fill the remainder of the unexpired term. If the office of President-Elect becomes vacant, the Vice President shall fill the remainder of the President-Elect's term and shall then progress to the office of President at the next normal rotation. *If both the offices of President and President-Elect become vacant in the same year, the Vice President shall serve the remainder of the President's term, and then the President-elect's term.* In such cases, all vacant positions shall be filled at the next annual election. If the office of the Vice President, Secretary or Treasurer becomes vacant, the Council shall appoint a member of the Association (by majority vote) to fill the remainder of the unexpired term.

Current Article IV Paragraph 10: The Executive Director shall be an appointed officer. The decision to fill this position requires a two-thirds vote by the Association's Council. Selection and appointment of the candidate Executive Director shall require a majority of all voting members of the Council. The Council may appoint an Assistant Executive Director to aid the Executive Director in the performance of his/her duties.

Proposed Change to Article IV- Paragragh 10 (changes in italics/red): The Executive Director shall be an appointed officer. Should a vacancy in this position become expected or realized, the Executive Committee of the Association shall serve as a search committee to solicit and review applications, conduct interviews, and recommend a candidate Executive Director to the Council. Selection and appointment of the candidate Executive Director shall require a majority of all voting members of the Council. The Council may appoint an Assistant Executive Director to aid the Executive Director in the performance of his/her duties.

### **Article V Council**

Current Article V: Elective Officers, the immediate Past-President, and twelve additional members in good standing (Councilors) shall constitute the Council of the Association. Said Council shall have general oversight responsibility for the Association. The President shall be the Chairperson of the Council and the President-Elect shall be the Vice Chairperson. Councilors shall be elected for a term of three years with four Councilors elected each year. Councilors may serve no more than two consecutive terms. Any vacancies on the Council shall be filled from the general membership by a majority vote of the remaining Council members. A Councilor may be removed from office for just cause by a two-thirds vote of the other Council members.

The Executive Director, Assistant Executive Director and the Commissioner of Committees shall be ex-officio members of the Council. As such, they shall not have voting privileges. The Council may adopt additional rules governing elections so long as those additional rules are consistent with the Articles of Incorporation and Bylaws of the Association.

This is the list of candidates who are on the ballot.

Click for candidate biographies.

PRESIDENT-ELECT Ken Carey Elizabeth Page

VICE-PRESIDENT Jeff Evans Richard Okulski

SECRETARY Mike Vescio Chad Gravelle



COUNCILORS
(A three-year term)
Vote for no more than four:
Brian Etherton Cha
John Gagan Mile
Jordan Gerth Flisse

Mike Goldberg

Charles Graves Miles Muzio Elise Schultz

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Proposed Change to Article V: (changes in italics/red): Elective Officers, the immediate Past-President, twelve additional members in good standing, herein referred to as Councilors, and one student member in good standing, herein referred to as the Student Councilor, shall constitute the Council of the Association. Said Council shall have general oversight responsibility for the Association.

The President shall be the Chairperson of the Council and the President-Elect shall be the Vice Chairperson. Councilors shall be elected for a term of three years with four Councilors elected each year. Councilors may not be elected to more than two consecutive terms.

The Student Councilor shall be afforded the same privileges and immunities as an elected Councilor except as proscribed in this Article, but shall be elected to serve a term terminating after three years,

See VOTE page 7

### **2013 Sol Hirsch Grant Winners**

Five exceptional grant winners were chosen from 158 applicants. These grants are funded by donations. Please consider donating to the Sol Hirsch Grant fund with your membership renewal.



Courtney Edwards and Libby Culiver

### Pamela Morrison

of Cape Romain Environmental Education Charter School in McClellanville, S.C. The program title is "Weather Connections".

### Courtney Edwards and Libby Culiver

of the YWCA of Evansville Live Y'ers After-School Program in Evansville, Ind. The program title is "Weather Central".



Pamela Morrison

### **Lorraine Moore**

of Cowpens Elementary School in Cowpens, S.C. The program title is "Back to the Future...of Meteorology".

### Karen L. White

of Berne-Knox-Westerlo Central School District in Berne, N.Y. The program title is "When Lightning Strikes: Sometimes You Need to Buy a New Interface".

### **Brandie Freeman**

of Woodland High School in Cartersville, Ga. The program title is "Using Probeware Investigations and Geographic Information System Data to Teach Atmospheric Concepts in Advanced Placement Environmental Science".

Sol Hirsch Education Fund Grants are awarded annually to teachers/educators of grades K-12 to help improve the education of their students, school and/or community in the science of meteorology. The Grant is intended to allow teachers to:

Purchase scientific materials and / or equipment for the classroom, school or community • Begin new school and / or community science outreach and education programs • Enhance and / or expand existing meteorology / science education programs • Attend accredited courses, workshops and /or conferences related to meteorology that will significantly enhance their teaching activities

### VOTE from page 4

or the end of the calendar year in which they are no longer a student member, whichever is less. The Council may wish to afford additional privileges to the Student Councilor by a two-thirds vote of the other Council members.

Any vacancies on the Council shall be filled from the general membership by a majority vote of the remaining Council members. A *member of the Council* may be removed from office for just cause by a two-thirds vote of the other *elected* Council members.

The Executive Director, Assistant Executive Director, and the Commissioner of Committees shall be ex-officio members of the Council, *and* shall not have voting privileges.

The Council may adopt additional rules governing elections so long as those additional rules are consistent with the Articles of Incorporation and Bylaws of the Association.

### Article X Publications

Current Article X: The official publications of the Association are the National Weather Association Newsletter, the National Weather Digest, and the NWA Electronic Journal of Operational Meteorology. The Association will publish the Newsletter monthly. The National Weather Digest will be issued no less than once and up to four times per year, and the NWA Electronic Journal of Operational Meteorology will be updated online with new articles as they are received, reviewed, and approved. Other additional papers, books and documents may be authorized by the Council.

**Proposed Change to Article X** (changes in italics/red): The official publications, and associated schedules of publication, will be established by the Council in consultation with the Publications Committee. Other additional papers, books and documents may be authorized by the Council.

Rod Donavon, President William A. Gallus, Jr., Social Media/Marketing Committee

The Central Iowa Chapter of the NWA held its regular monthly meeting on Tuesday, November 5, with approximately 20 members present. The meeting was held at Iowa State University and kicked off with a presentation by Kevin Skow from the NWS in Des Moines, Iowa, on the use of high-resolution satellite data to assist with tornado damage surveys for the June 12, 2013, event near Belmond, Iowa. Kevin showed how the satellite data revealed portions of the tornado track, up to several miles long, that had been missed in the initial ground survey at both the initiation and dissipation stages of several tornadoes that occurred on this day. This event showed that a combination of a thorough ground survey, photos of the tornadoes, and satellite imagery, is ideal for the construction of very detailed tornado tracks.

The special seminar was then followed by updates from various teams planning the 18th Annual NWA Severe Storms and Doppler Radar Conference to be held March 27-29 in Ankeny, Iowa. To honor the memory of Tim Samaras, a frequent invited speaker at the conferences, a new award in his name is being created for the best student oral and poster presentations. The chapter discussed the monetary prize that will be associated with these awards, and also provided feedback on speakers to be invited to the conference. Additional discussion focused on meeting locations and social events for future meetings. The next meeting was set tentatively for December 10 at the WHO-TV studios in Des Moines.

### www.iowa-nwa.com

### 2014 NWA sponsored Annual Meetings, Conferences and Special Events

February 8, 2014: The 2014 National Storm Conference

A full day of presentations from some of the top severe weather experts in the country. Storm spotters, chasers, forecasters, researchers, emergency managers and others gather at the conference for a day of learning and fun. It's free and open to the public, so come and join us for the biggest event in Tornado Alley! <a href="http://www.tessa.org/meeting.html">http://www.tessa.org/meeting.html</a>

February 10-11, 2014: National Tornado Summit & 2014 National Severe Weather Workshop

Breakout sessions will be conducted as part of the National Severe Weather Workshop at the 2014 National Tornado Summit in Oklahoma City. Sessions will focus on hazardous weather information-sharing, and discussions on the effective transmission of messages about meteorological risk.

http://www.tornadosummit.org/ and http://www.norman.noaa.gov/nsww/

March 7–9, 2014: 39th Annual Northeastern Storm Conference

The Lyndon State College Chapter of the AMS and NWA will sponsor this annual conference at the Holiday Inn in Rutland, Vt. <a href="https://sites.google.com/site/lyndonstateamsnwa/north-eastern-storm-conference">https://sites.google.com/site/lyndonstateamsnwa/north-eastern-storm-conference</a>

March 27–29, 2014: 18th Annual Severe Storms and Doppler Radar Conference

Sponsored by the Central Iowa NWA Chapter, it will be held at the Courtyard by Marriott in Ankeny, Iowa. <a href="http://www.iowa-nwa.com/conference/">http://www.iowa-nwa.com/conference/</a>

October 18-23, 2014: 39th NWA Annual Meeting

The 39th NWA Annual Meeting (#nwas14) will be held in Salt Lake City, Utah, at the downtown Sheraton Hotel. Plan now to attend and present! <a href="http://nwas.org/meetings/">http://nwas.org/meetings/</a>

### Other Meetings, Conferences and Special Events

December 10-11, 2013: Northeast Regional Operational Workshop (NROW) XIV

It will be held at NWS WFO Albany, N.Y. It is co-sponsored by the NWS in Albany and the Department of Atmospheric and Environmental Sciences, University at Albany. <a href="http://www.weather.gov/aly/NROW14">http://www.weather.gov/aly/NROW14</a>

February 2-6, 2014: 94th AMS Annual Meeting

The meeting will be held in Atlanta, Ga. and the theme is "Extreme Weather–Climate and the Built Environment: New Perspectives Opportunities and Tools." <a href="http://annual.ametsoc.org/2014/">http://annual.ametsoc.org/2014/</a>

November 3–7, 2014: 27th Conference on Severe Local Storms

The conference will be held at the Madison Concourse Hotel in Madison, Wis. The formal call for papers is expected to be posted on the AMS website soon.

PROFESSIONAL DEWELOPMENT

### In Memoriam

Peter Leavitt, an NWA charter member and one of the first Councilors, passed away on Monday, October 21 at the age of



82 following a long battle with cancer. He was a meteorologist, graduating from M.I.T in the 1950s. He was very influential in the field of agricultural meteorology, publishing an article in the February 1978 National Weather Digest on damaging freezes in central Florida. He also provided several articles for the NWA Newsletter. He founded WSI in 1978. Pete foresaw the power and influence of computers in

meteorology and was an innovator in using computers to assist in making forecasts for WSI's customers. He was enthusiastic about all things weather, and is a force that will be missed.

### Newsletter Submissions

We welcome Newsletter article submissions from members. Send articles to <a href="mailto:nwanewsletter@nwas.org">nwanewsletter@nwas.org</a> 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

http://www.nwas.org/newsletters/.



# Dec. 31: Voting for NWA Officers and Councilors closes at midnight! See page 4. member.nwas.org Feb. 2–6: 94th AMS Annual Meeting in Atlanta, Ga.

Feb. 8: The 2014 Texas Severe Storms Association (TESSA) National Storm Conference in Arlington, Texas

Feb. 10-11: National Tornado Summit & 2014 National Severe Weather Workshop in Oklahoma City, Okla.

### **New NWA Members in October 2013**

Regular/Military/ Retired Thomas Andrews Richard A. Darby Donna Demeter **Kyle Dennis** Odis J. Fields Valarie Goodwin Michael Hardiman Matthew Haworth Michael Hogan Chrissy Kohler Josh Marthers **Bailey Melton** Steve Miller Bradley J. Montgomery Jeff Munkel Al Nash Richard Ottoson Mario Picazo **Iamal West** 

Students Chelsea Ambriz Kimberly R. Andre Chapin Cofod Garabed K. Derr Benjamin Dominguez Michael Duval Adam French Chyna A. Glenn Benjamin S. Herzog Ericka M. Hines Chris M. Johnson Amanda Leitz Christopher McDonald Robert McGinnis William Peyton Jonathan Radford Braden V. Robinson Lauren C. Ruff Preston A. Thornton Chris Vintila Andrew Wilson Joseph Wood

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Submit newsletter items to nwanewsletter@nwas.org using the Instruction for Authors at <a href="http://www.nwas.org/newsletters/newsletter\_instructions.php">http://www.nwas.org/newsletters/newsletter\_instructions.php</a>.

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.