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

No. 13 – 12

Newsletter DECEMBER 2013

Norman Office Now Open!

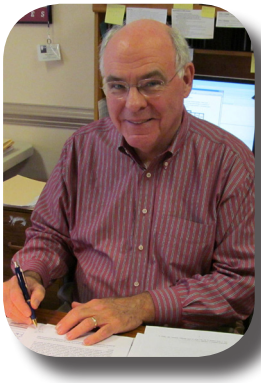
The NWA has a new home in Norman, Okla. The Raleigh office will still be the primary office through January, but Executive Director Elect Janice Bunting is spinning-up the Norman office and will soon be hiring staff.

The office is located in One Partners Place on the University Research Campus. In one to two years, the plan is to move the office to a larger space in Two Partners Place. Both buildings are located very near the National Weather Center (NWC) and the new Radar Innovations Laboratory.

If you are in the Norman area, please visit the office. Janice will be working part-time through January, so it is best to let her know ahead of time when you plan to visit.

The University of Oklahoma Research Campus (URC) was named the nation's top research park for 2013 by the Association of University Research Parks. The award recognizes the OU Research Campus for excellence in innovation and places it among such past recipients as the Research Triangle Park in North Carolina, Purdue Research Park in Indiana and University City Science Center in Pennsylvania. This video showcases the URC.

The primary reason to re-locate the NWA to Norman is to co-locate it with the NWC. Many of our members reside near or pass through Norman each year. We hope you will visit.



Executive Director Janice Bunting; Retiring Executive Director Steve Harned signing new office lease.

New NWA Headquarters:
350 David L. Boren Blvd
Suite 2750
Norman, OK 73072
Phone: 405-701-5167

Pictured below - from left: Our new office; our building's common area overlooking Radar Innovations Laboratory; One Partners Place lobby.

INSIDE THIS EDITION ...

Got Your Ballot?

It is time to vote for the 2014 NWA Council, Officers and bylaw changes! (You should have already received your ballot in the mail). Mail in your vote or cast it through the Member Portal by Dec. 31.

See the November Newsletter for a list of candidates and proposed bylaw changes.

With Appreciation for Great Dedication and Leadership

The NWA Annual Meeting in Charleston was the last meeting that Executive Director Steve Harned, Assistant Executive Director Ruth Aiken, and Administrative Service Assistant Margaret Baron attended as NWA employees. They are all retiring in 2014. The NWA Executive Committee and Council recognized Steve, Ruth and Margaret during the 2013 Awards Luncheon held at the Charleston Annual Meeting. This photo of (l-r) Margaret, Steve and Ruth is at the current NWA office in Raleigh, N.C. ***Thank you to Steve, Ruth and Margaret for years of dedication to the NWA!***

Steve and Bruce

President Bruce Thomas recognized Ruth's special achievements as assistant executive director. Then, on behalf of the NWA Broadcast Meteorology Committee, Chair Miles Muzio presented Ruth with the first Honorary NWA Seal of Approval. Ruth worked industriously to see the rollout of a new NWA Seal of Approval, an updated and wholly computerized written exam for Seal candidates, as well as an entirely electronic NWA evaluation process.

Ruth and Miles

Steve, a charter member, was recognized for years of service to the NWA. He has held many volunteer positions over the years, and his work as executive director was most appreciated. Steve was presented with the first new Lifetime Membership that was established this year, a Lifetime Membership pin, and a plaque that read, "In recognition of and gratitude for your leadership as Executive Director of the National Weather Association, 2007-2014."

Margaret

Margaret Baron began working at the NWA office in 2009. She was thanked for her efforts to keep NWA operations running smoothly. Her plaque stated, "For exceptional performance as the National Weather Association's Administrative Service Assistant. Ensured smooth office administrative operations, provided top quality service to members, and expertly supported the important NWA financial tracking responsibilities."

Our Appreciation for your Service

These NWA Officers and Councilors have Council terms ending on December 31. We thank all of them for serving the NWA. The years next to their title indicate continuous years on the Council.

All Council members dedicate much time each year to ensure the NWA stays relevant and financially sound.

Thank You President Bruce Thomas for serving as our president for 2013 and part of 2012!

Elizabeth Quoetone – Immediate Past President (3 years)
John Gordon – Vice President (1 year)
Diane Cooper – Secretary (2 years)
Frank Brody – Councilor (3 years)
Troy Kimmel – Councilor (6 years)
Dr. Chad Kauffman – Councilor (3 years)
Nezette Rydell – Councilor (3 years)
Jordan Gerth – Student Ex-officio (3 years)

Reflections on a Career

One of my last official duties as the NWA President was to visit our newly formed Ohio Valley Local Chapter of the NWA, meeting this day in the Woodford Reserve Room at the U.S. Army base Fort Knox, Ky. My day started with a quick flight over to Louisville where my good friend and wingman NWA Vice President John Gordon picked me up at the airport for the short drive to Fort Knox.

I originally planned to talk about the NWA and the exciting years I have had serving as a Councilor, Vice President, President Elect and President, but the chapter members requested that I talk about something completely different: my years spent promoting NOAA Weather Radio. This caused me to really reflect back on my career and how I got involved with the NWS First as a teenage volunteer intern in my hometown of Jackson, Miss., followed by a lengthy broadcast meteorology career, and finally today as a national spokesperson for an electronics manufacturer that builds the weather radio receivers.

It has been over 30 years since making my first weather recording during the midnight shift on NOAA Weather Radio. Since then, the Weather Channel, cell phones, e-mail, apps, the Internet, and many more new technologies have arrived to the market place, but NOAA Weather Radio is still one of the fastest ways to warn a mass population.

This is my last President's message and I hope you and your families have a wonderful holiday season and a great 2014. It's been my pleasure serving this year and I am sure that our paths will cross again at an NWA meeting in the future.

Thank you and God Bless,

Bruce G. Thomas

President Bruce Thomas and Vice President John with members of the Ohio Valley Chapter, from left to right: Kyle Thompson, John Gordon, Chris Allen, Bruce Thomas, Linda Gilbert (Chapter President), Ron Steve, and Joe Sullivan.

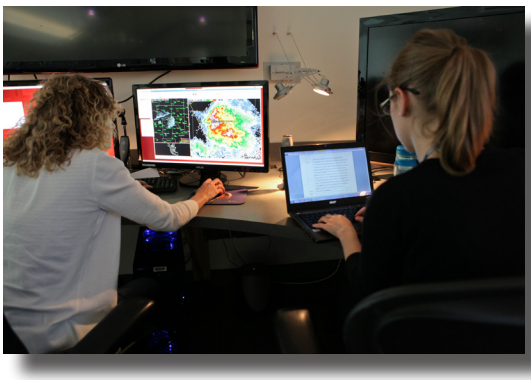
Project: The 2013 Phased Array Radar Innovative Sensing Experiment

Katie Bowden
University of Oklahoma Cooperative Institute for Mesoscale Meteorological Studies

Pam Heinselman
National Severe Storms Laboratory

With the current WSR-88D approaching the end of its lifetime, scientists have been exploring the option of replacing the national radar network with a Multifunctional Phased Array Radar (MPAR). A major difference between the MPAR and the current WSR-88D is that the beam is electronically steered rather than mechanically, allowing for non-contiguous and faster surveying of the atmosphere. As a result, the MPAR is capable of providing higher-temporal resolution radar data with a potential update time of less than one minute.

Over six weeks during this past summer, 12 National Weather Service (NWS) forecasters visited the NWC in Norman, Okla., to participate in the 2013 Phased Array Radar Innovative Sensing Experiment (PARISE). The goal of this experiment was to learn about the impact of this higher-temporal resolution radar data on the warning decision process of NWS forecasters during severe weather. Both the 2010 and 2012 PARISEs reported promising results of improved forecaster performance when using these data during tornadic events. To broaden the focus of PARISE and address the impact of this rapid-update data on other types of severe weather, the 2013 experiment presented severe wind and hail events to participants.



2013 PARISE participant Gail Hartfield (left) working with researcher Katie Bowden (right) .

All of the participants were presented three weather case studies to work in simulated real time. Depending on whether participants were assigned to the experiment group (N=6) or control group (N=6), the volumetric update time was either one minute or four minutes, respectively. Quantitative analysis of forecaster performance, such as warning verification and lead times, will enable a numerical comparison between the two groups. However, to really understand the impact of the rapid data on the warning decision process of each forecaster, this experiment also collected rich qualitative information that will provide greater insight into why forecasters performed the way they did. Upon finishing each case, forecasters completed the case walk-through procedure. This is a form of cognitive task analysis that was also used during the 2012 PARISE and was found to be an effective tool for eliciting forecasters' warning-decision thought processes upon completion of a case. Thematic coding of these timeline-designed accounts will enable us to evaluate the macro-cognitive aspects that feed into and are crucial to warning decisions. Attention will be particularly drawn to how the temporal resolution of the data plays a role in the way forecasters engage in dynamic tasks.

Broadcast Mets Support NWS Storm Surge Warning

Betty H. Morrow
SocResearch Miami, Miami, Fla.

Jeffrey K. Lazo
National Center for Atmospheric Research, Boulder, Colo.

STORM SURGE WARNING

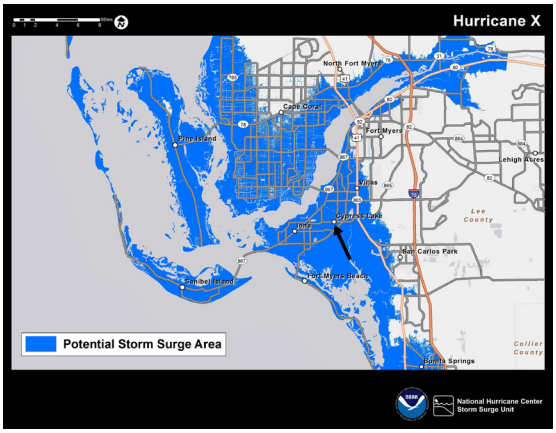
Mortality rates from storm surge are a continuing source of concern for the tropical and extratropical cyclone forecast and response communities. Sandy is the latest in a series of relatively low wind, high surge events, including Hurricanes Irene, Ike, and Katrina. The challenge is to increase public understanding of the nature of storm surge, as well as local risk and vulnerability. Efforts are underway throughout the weather enterprise to address this issue. Social science research was initiated by several National Oceanic and Atmospheric Administration (NOAA) agencies, including the National Ocean Service, the Coastal Services Center and the NWS to gather stakeholder perceptions and preferences about storm surge communication.[1] Specifically, the research explored whether there should be a storm surge watch and warning, as well as how potentially life-threatening inundation can be communicated in a manner that saves lives. In this article we describe results of a survey of broadcast meteorologists on storm surge communication.

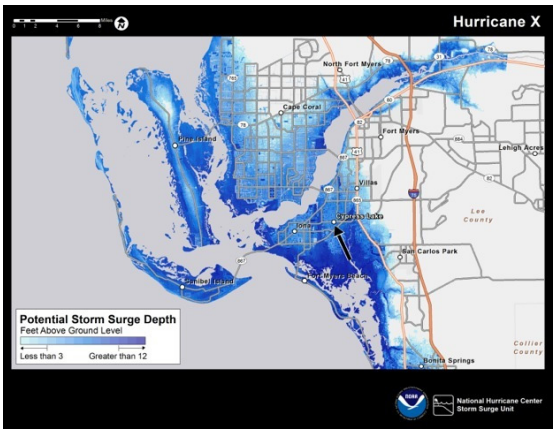
After exploratory work to identify issues and develop maps for conveying surge threat, several surveys collected input from key stakeholder groups: emergency managers, broadcast media, NWS Warning Coordination Meteorologists, and the coastal public. The public surveys confirmed that people typically turn first to local television for hurricane information and then seek confirmation on cable television, websites, and through their social networks. Thus, integrating input from local television broadcast meteorologists is a key step toward improving storm surge forecast communication.

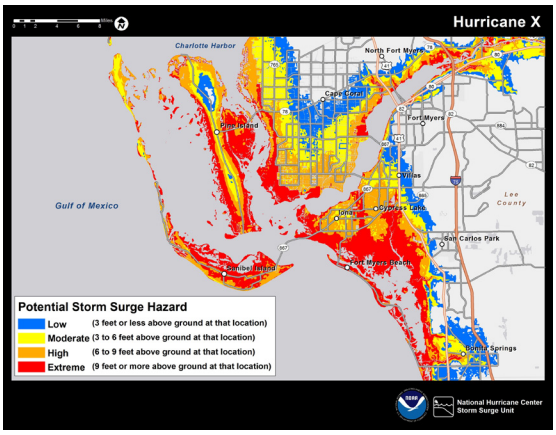
Lead meteorologists at local television stations (ABC, CBS, Fox and NBC) serving coastal markets on the Atlantic, Gulf and Pacific were contacted via email to participate in an online survey. During June-July 2012, 51 surveys were completed (42 percent response rate). Participants have an average of 19 years experience in meteorology and 85 percent are chief meteorologists. More than half are AMS Certified Broadcast Meteorologists, 81 percent have the AMS Seal of Approval, and 31 percent have earned the NWA Seal of Approval. On average they have covered five to six tropical storms, one to two hurricanes and three to four extratropical cyclones affecting their area over the last decade. The opinions of these highly experienced members of the forecast community are extremely valuable.

About 93 percent of the respondents were concerned about storm surge. Yet, they estimated only 30-40 percent of at-risk viewers understand their storm surge vulnerability. When asked whether the NWS should add a separate surge watch and warning, 90 percent agreed or strongly agreed with a watch and 95 percent supported a warning. Some of their comments included, "I believe the general public reacts better to an official storm surge warning…", "The current surge information is vague and confusing", and "… [it] would elevate the importance of the threat to the viewing public." Over 90 percent believe it will result in better communication in their weathercasts. These findings strongly indicate that NWS efforts to create separate storm surge information products would provide a critical link in the storm surge communication chain.

Before a storm surge warning can be adopted, decisions must be made about how it will be displayed and described. A simple map with one color illustrating areas under warning was shown to the broadcast meteorologists and 92 percent felt it would be effective. There were suggestions for more landmarks such as roads, particularly at the break points, higher resolution, and the ability to zoom in. For local surge information, three prototype graphics were developed and tested in the stakeholder surveys. The first







Potential storm surge area in one shade of blue, in gradations of blue; and in multiple colors.

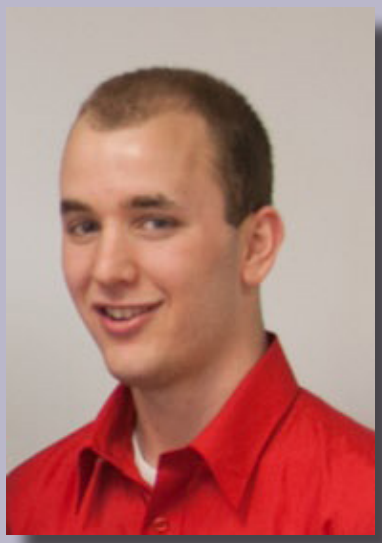
inundation map showed the entire area under threat for storm surge as one solid color, blue. The second depicted the same area but uses gradations of blue to illustrate levels of water. The third divided the risk into four categories, using different colors for each (see figures).

When asked to choose among the three, 88 percent preferred the multicolored map. On ease of

See STORM page 5

[1] *The survey also included several prototypes in early development for depicting wind and track but only the surge portion is reported here.*

Congratulations to NWA Scholarship winners!



James Boys
Western Kentucky University

He received the Bob Glahn Scholarship in Statistical Meteorology.

Made possible thanks to a generous donation from Dr. Harry R. "Bob" Glahn, longtime and recently retired Director of the NOAA/ NWS Meteorological Development Laboratory.

Nikki Perrini
Florida State University

She received the Arthur C. Pike Scholarship in Meteorology.

Made possible thanks to a generous donation from the estate of the late Dr. Arthur C. Pike, the NWA Council developed an annual college scholarship fund in Dr. Pike's name starting in 2001.

John Banghoff
Ohio State University

He received the Phillips Family Undergraduate Scholarship for Meteorology.

This annual scholarship is made possible through a generous donation from Ryan Phillips of Hollywood, Fla. He is currently a broadcast meteorologist at WTVJ in Miami, Fla.

STORM from page 4

understanding, 96 percent rated it positively and 94 percent gave it high marks for effectiveness in forecast communication. The storm surge forecasts report potential water levels above ground level, a move supported by these meteorologists. However, most thought it should be expressed as "height of water above ground" as opposed to depth. Several thought the colors were too intense or "garish." Other comments: "A lot of education will be needed," "This is great for people who know how to read a map, but many (most?) viewers don't," and "Street mapping is the key." One cautioned, "There is always a struggle between providing too much information and providing too little but if you don't provide enough, complacency seems to be high."

Concern was expressed as to whether the NWS can issue inundation maps with sufficient accuracy and timing to be useful. Several mentioned that the commercial weather vendors used by their stations will need sufficient time to get any new NWS products ready for on-air graphics. Product timing is an important issue since forecasts need to arrive 15-20 minutes before the hour in order to be incorporated into weathercasts. Broadcasters also noted that the importance of developing versions for smart phones and other portable devices.

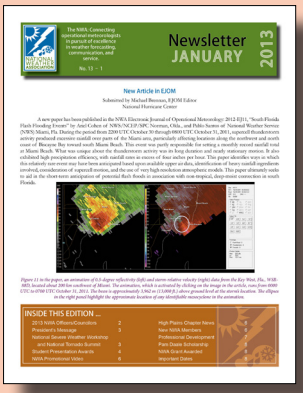
The principal conclusion is that coastal broadcast meteorologists are highly supportive of NWS issuing separate storm surge watches and warnings. They support a map showing the general area under warning and multicolored local inundation maps. Building on the findings reported here and in the parallel work with other stakeholders, the NWS is considering adding a storm surge warning to its list of watches and warnings (www.stormsurge.noaa.gov/forecast_warning-warnings.html). Details will be worked out, with the help of key stakeholders, through a continuing process with the goal of having these products at the experimental stage for the 2014 tropical cyclone season. Surge forecast products are also being considered for use in extratropical storms.

The full report is available through NCAR's OpenSky program at nldr.library.ucar.edu/repository/assets/technotes/TECH-NOTE-000-000-000-864_a.pdf.

Acknowledgements: Special thanks to Jamie Rhome, Robert Berg, Gina Eosco, Ethan Gibney, Keelin Kuipers, Mary Erikson, Crystal Burghardt, Jennifer Boehnert, Christina Thomas and Dennis Feltgen for their assistance with this project. This work was carried out through NCAR in part with funding under award numbers NA06OAR4310119 and NA06NWS4670013 from NOAA, U.S. Department of Commerce.

Newsletter Submissions

We welcome Newsletter article submissions from members. Email articles to 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: http://www.nwas.org/newsletters.



Happy Holidays and Happy New Year!

We hope all of our members have a happy and safe holiday season. We are thankful for your membership, and greatly appreciate all of our volunteers who keep the NWA strong.

NWA Staff and Council

January Webinars from the NWA

Several speakers were scheduled to give oral presentations on the original 2013 NWA Annual Meeting. Unfortunately many were unable to attend. The NWA 2013 Annual Meeting Program Committee and the Specialized Operational Services Committee have organized webinars to give those people an opportunity to present their work to NWA members.

The webinars are scheduled on January 7 and January 14, 2014, from 10 a.m. to noon CST. Each presenter will be given 12 minutes to deliver their presentation and another 3 minutes for questions and answers. Up to eight presentations will be given each day.

There are 100 attendee slots available for each webinar. Most presentations will be recorded and made available for viewing at a later date.

NWA WEBINARS

Date	Time in CST	Speaker	Presentation Title
1/7/2014	10:00 am	Nathan Barber	Using a Combination of FFG Techniques to Create a Best Estimate FFG Grid
	10:15	Jesse Feyen	When, Where and How: National Ocean Service Science Support in Support of Communication of Storm Surge Hazards
	10:30	Alexander Tardy	NWS Providing Information Decision Support Services Meeting the Needs of New and Existing Government Users
	10:45	Chris Leonardi	Operational Support of the National Boy Scout Jamboree as a Model for Advancing Decision Support Services
	11:00	Bill Sammler	Situational Awareness – It's a Daily Thing
	11:15	Stephen Kearney	Aviation Weather: At the Heart of Decision Support
	11:30	Christine Wielgos	Observations of the Harrisburg Tornado of 29 February 2012
1/14/2014	10:00 am	Chris Spannagle	Tornadic Debris Signature Usage in NWS Warnings
	10:15	Tony Fracasso	Medium Range Forecasting at the Weather Prediction Center (WPC) - An Ensemble Effort in Big Data
	10:30	Paul Schlatter	Diagnosis of an Unusual Dual-Polarization Radar Signature in the 29 June 2012 Derecho
	10:45	Rick Smith	Communicating the Threat: How NWS Norman Used Social Media in the May 2013 Tornadoes
	11:00	Andy Latto	Communicating the Message of High Impact, Sub-Advisory Winter Events - Challenges and Ideas
	11:15	Todd Barron	High Impact Decision Support for Incidents in the Tampa Bay Region
	11:30	Jordan Gerth	Sky Cover: Shining Light on a Gloomy Problem
	11:45	Bryan Smith	Operational Applications of SPC Tornado Forecasting tools Using a Multi-Faceted Tornadic Storm Attribute Database

Members may register for the webinars by clicking the following dates: January 7 and January 14.

New NWA Members in November 2013

Regular/Military/ Retired

Robert Elvington
Sarah Fortner
Chris Gilson
Jon Haverfield
Roy Holmes, Jr.
Joseph Marzen
Brett McDonald
Andrew Michael
Mike Prangley
John Smith

Students

Kevin Bartlett
Jillian Bohenek
Travis Cruz
Christi Drawhorn
Samantha Garrett
Bradford Guay
Emily Huang
Benjamin Reppert
Christina Reuille
Bryant Sell
Christy Shields
Elyse Smith
Michael Spagnolo
Katie Starr
Allison Stidworthy
Paul Svenson

PROFESSIONAL DEVELOPMENT

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!
http://www.tessa.org/meeting.html

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.
https://sites.google.com/site/lyndonstateamsnwa/north-eastern-storm-conference

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.
http://www.iowa-nwa.com/conference/

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!
http://nwas.org/meetings/

Other Meetings, Conferences and Special Events

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." http://annual.ametsoc.org/2014/

April 9-12, 2014: National Tropical Weather Conference

The conference will bring the current director of the National Hurricane Center and three former directors together to discuss tropical systems and forecasting. Conference presentations will cover tropical systems, mitigation, forecasting, seasonal forecasting, and more. NWA Seal holders can receive CEUs for attending. http://www.hurricanecenterlive.com

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.

NWA 2012 - IRS Tax Return Details

INCOME	
Dues, contributions, grants	$106,400
Program service revenue*	204,637
Investment income	6,423
Other income	15,570
Total Revenue	333,030
EXPENSES	
Salaries	$101,542
Annual Meeting	63,436
Publications	41,666
Scholarships/Grants	18,100
Professional Svcs	14,737
IT	1,273
Office Ops/Fees	23,739
Travel	12,227
Marketing	9,643
Insurance	1,925
Other	25,038
Total Expenses	313,326
Operating surplus for 2012	19,704
Increase in value of investments	7,121
Increase in Net Assets	26,825
Net Assets	
December 31, 2012	$246,164

*Program service revenue:

- Annual meeting income
- Broadcast certification income
- Subscriptions
- Digest author page charges

High Plains NWA Chapter News

(www.highplains-amsnwa.org)
William Taylor, President
Tim Burke, Secretary

The High Plains Chapter of the NWA held the first face-to-face meeting since March 2012 on November 21 at a local restaurant in Norton, Kan. Seventeen members attended, despite the ongoing winter weather. Following lunch, we recessed to a small room for a presentation by Jeff Halblaub of the Hastings, Neb., NWS office. During the presentation, "Wake Lows and Threats," Jeff stressed the importance of microphysics in wake low development, and the important role of the rear inflow jet. A key parameter to monitor is diminishing precipitation, which can precede the formation of a wake low and strong winds. There are three stages common to a wake low event: 1) heavy rain followed by 2) rains tapering off quickly and 3) a sudden drop in sea-level pressure. Jeff reviewed a case of a wake low from May 11, 2011, in northern Michigan, cutting off between Manistique and St. Ignace in the Upper Peninsula. The data sources in the area are quite sparse, making strong winds hard to detect. Jeff obtained a few reports from ships, one of which was an isolated 40-knot gust. Jeff later verified this strong wind. In the Great Lakes area, Jeff stated that if you find a 40-knot gust, then there is likely to be some kind of water-level fluctuation, such as in a locks or canals.

Afterwards, President Bill Taylor welcomed all to the first non-virtual meeting in over a year and a half. Vice President Jeremy Wesely and Rick Ewald, both from the Hastings, Neb., NWS office, briefed the attendees on the 2014 High Plains conference status. The chapter is moving forward with plans for the conference in August 2014. We want to get back to the chapter's original goal to host a conference in which first time presenters would have a comfortable environment in which to present. If the NWS budget is too limited to support conference attendance, the conference will be virtual. High Plains Chapter members were asked to contact their respective Meteorologists in Charge now and ask them to set aside funds dedicated to conference attendance. Furthermore, each university in the High Plains area will be contacted in person by members who will ask instructors to speak about the conference in meteorology classes, and specifically about the student paper competition. Aaron Johnson, the Science and Operations Officer at the Dodge City, Kan., NWS office, suggested we offer the student presenters some travel funds to encourage more student participation in the conference. Treasurer Scott Bryant reported the current checking account balance. All non-paid members are encouraged to pay their 2014 dues of $15 by the next meeting. The next meeting will be a virtual meeting on January 8, 2014. The presenter will be Greg Carbin, the Warning Coordination Meteorologist from the Storm Prediction Center, who will give a presentation on the top 10 weather events of 2013.

IMPORTANT DATES

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.

Additional events and dates are on page 7 and on our website.

NWA Newsletter (ISSN 0271-1044)
Technical Editor: Winnie Crawford
Editor and Publisher: Janice Bunting, Executive Director Elect

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Submit newsletter items to nwanewsletter@nwas.org using the Instruction for Authors at http://www.nwas.org/newsletters/newsletter_instructions.php.

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.