

# NEWSLETTER

**National Weather  
Association**

NO. 08 – 3 MARCH 2008

## ***President's Message***

The March 5 El Nino Southern Oscillation (ENSO) update published by Australia's Bureau of Meteorology emphasizes the mature state of the La Nina present in the Pacific basin. The report cites the record February Southern Oscillation Index (SOI) value of +21.3, anomalously cool equatorial sea surface temperatures in the central and western Pacific, and strong trade winds as working in concert to maintain the current La Nina. The National Weather Service Climate Prediction Center outlook calls for moderate La Nina conditions to persist through May with some model forecasts suggesting at least a weak La Nina to persist through the upcoming summer.

The ENSO phase exerts a strong influence on U.S. temperature and precipitation trends. The 2007-2008 winter appeared particularly susceptible to the current La Nina as a progressive flow regime continually energized the mid- and upper level jet streams. Frequent storms exerted a deadly toll on several southern communities since early January and delivered much needed rain to the south from Birmingham, Ala., to Columbia, S.C. Repeated snows occurred across much of the Midwest and Great Lakes states including a



1888 Blizzard

record March single-storm total of 20.5" of snow at Columbus, Ohio.

March is truly a notorious time of year as the atmosphere begins its seasonal transition. The juxtaposition of residual continental polar air with warm, humid marine air surging north from the Gulf of Mexico in the presence of a migratory jet stream are typically sufficient to support short-wave amplification and surface cyclogenesis. Two historical March events illustrate the

*Continued page 4*

## ***Water We Learning Now?***



**Read about the  
Weather Museum in  
Houston's celebration  
as it turns two!**

**See Page 7  
for details**

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**✓ CHECK YOUR DATES:**  
**OCT. 11 - 16**

**NWA ANNUAL MEETING IN  
LOUISVILLE, KY.**

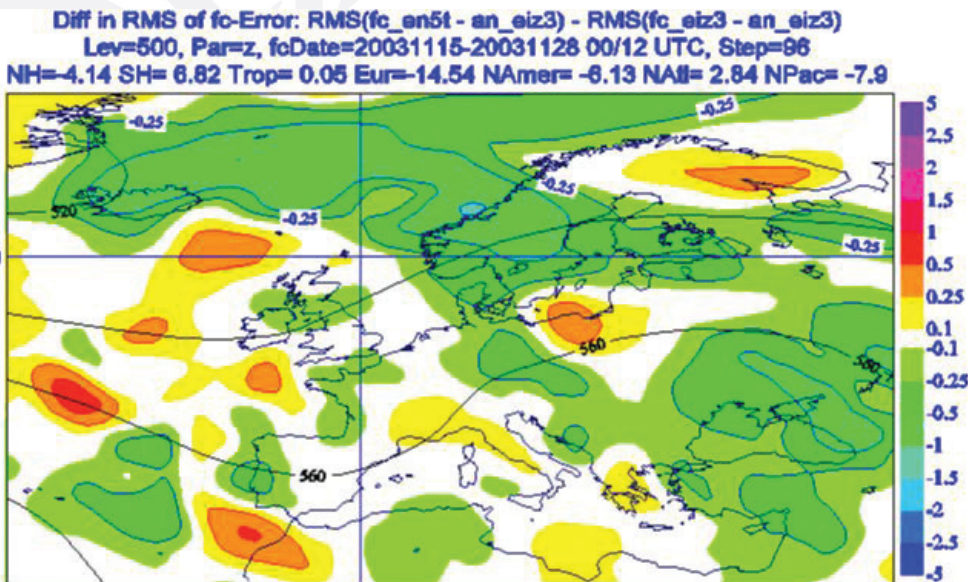
# Improving Forecasting Using Doppler Wind Lidar

Forecasters use Doppler wind data from NEXRAD and radar wind profilers to detect the onset of convective storms and severe weather events and predict their evolution and motion. With satellite imagery, *in situ* data, and model guidance, these observations are critical for nowcasting and issuing short-term warnings for severe weather. By measuring the frequency shift of electromagnetic radiation back-scattered by atmospheric particles that move with the wind, range-resolved Doppler velocities are derived, and wind vectors determined by combining the Doppler shifts from multiple lines of sight.

For ground-based wind profiling, radar wavelengths provide reliability and the capability to measure wind and backscatter within and beyond clouds. To make Doppler wind measurements from space, lidar (light detection and ranging) technology at infrared or ultraviolet (UV) wavelengths must be used to build instruments compact enough for satellites and sufficiently sensitive to detect backscattered light from orbit.

The first space-based Doppler Wind Lidar (DWL), called the Atmospheric Dynamics Mission- Aeolus (ADM-Aeolus), is scheduled to be launched into a polar orbit by the European Space Agency in 2009. Operating in the UV, ADM-Aeolus will provide radial wind measurements along a single line of sight over the entire globe, albeit with large gaps at low latitudes. Secondary data products will include the location and thickness of cloud layers and the distribution of aerosols. Details about the mission may be found online at: [www.esa.int/esaLP/LPadmaeolus.html](http://www.esa.int/esaLP/LPadmaeolus.html).

Satellite-based lidar wind measurements are expected to result in improved short-to-medium-range numerical weather forecasts, and may be particularly valuable for improving tropical cyclone track forecasts by providing a direct measure of



**Fig. 1.** Mean (29 cases) 96 h 500 hPa height forecast error difference (Lidar Experiment minus Control Experiment) for 15 - 28 November 2003 with actual airborne DWL data. The green shading means a reduction in the error with the additional Lidar data compared to the Control data alone.

the large-scale steering current. Recent forecast impact results (Figure 1, from Weissman and Cardinali 2006) obtained with the European Centre for Medium-range Weather Forecasting (ECMWF) global model indicated that adding DWL data collected during a 2003 airborne campaign over the North Atlantic to the control experiment reduced the 72-hour forecast error by ~3.5%. This is comparable to ~10% of the improvement realized at the operational NWP centers in the past 10 years from *all* of the improvements in modeling, observing systems, and computing power. Thus, for forecasters, the availability and use of space-based DWL data is likely to provide a significant enhancement to their forecast tools.

James G. Yoe  
Remote Sensing Committee

## CORRECTION TO NATIONAL WEATHER DIGEST VOLUME 31, NO. 2, DECEMBER 2007

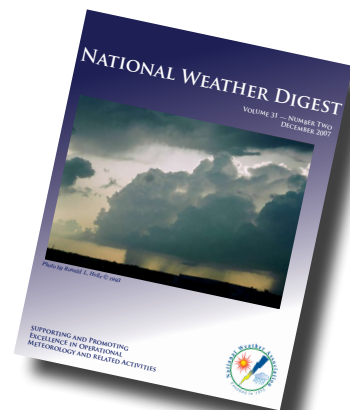
**Due to technical problems with the December 2007 edition of the National Weather Digest, several paragraphs were left out of the paper:**

**Case Study of a Long-Lived Thundersnow Event**  
**By Patrick S. Market, Rebecca L. Ebert-Cripe, and Michael Bodner**

**Additionally, a figure was missing from the paper:**

**The Wisconsin Tornado Outbreak of 23 June 2004**  
**By Mark G. Gehring**

**The National Weather Association apologizes to the authors and regrets any inconvenience experienced by our readers. Corrected versions of the papers are now posted on the NWA Web site ([www.nwas.org](http://www.nwas.org)). Additionally, the missing sections and figure will be printed in the next volume of the Digest.**



Steve Harned  
Publisher

The November 2007 meeting featured a talk by Vice President Mike Umscheid, Journeyman Forecaster from WFO Dodge City. Mr. Umscheid's talk was a synopsis of the NWA Annual Meeting he attended in Reno, Nev. Highlighted were: A) "Will the Myths Never Disappear?" by Mike Utley, referencing the Web page [struckbylightning.org](http://struckbylightning.org). Mr. Utley was struck by lightning, and this site is devoted to the promotion of lightning safety and education; B) Greg Carbin's paper on the top ten significant weather events of the past year was featured, with three of the top ten events occurring in the High Plains: 1) The Dec. 30, 2006, High Plains Snow/Ice storm; 2) The March 28 High Plains tornado outbreak; 3) The May 4 Greensburg, Kan., tornado; C) Challenges in Satellite meteorology, with GOES-R being our next significant operational satellite system; and D) The MetEd Web site operational model Matrix ([www.meted.ucar.edu/nwp/pcu2/](http://www.meted.ucar.edu/nwp/pcu2/)).

Mr. Umscheid ended with a summary of the Awards Luncheon, including sharing the plaque he received for the Operational Achievement Individual Award, for his performance during the May 4, 2007, Greensburg, Kan., tornado. (Most of the presentations from the conference can be accessed via the NWA homepage, [www.nwas.org](http://www.nwas.org), following the links on the left side, Annual Meeting/2007 Reno, Nev.)

The 2008 High Plains conference is scheduled for September in Goodland, Kan. Presentations from the 2007 conference are located at [www.highplains-amsnwa.org](http://www.highplains-amsnwa.org). The



**Mike Umscheid receiving the Operational Achievement Individual Award from past president Alan Gerard.**

Chapter voted to divert \$500 of our treasury into the *Jim Johnson Scholarship* fund, to cover the 2009 scholarship and to help build the fund up more substantially.

**Tim Burke**  
*Secretary*

### **Public & Private Meteorologists ... Getting to Know Each Other**

Have you ever wondered why there seems to be a disconnect between the public and private sector? Several fundamental reasons for this can be explored through the Private-Public Partnership module at [www.ncim.org/pppcourse2006/](http://www.ncim.org/pppcourse2006/) or [www.wdtb.noaa.gov/courses/PPP/index.html](http://www.wdtb.noaa.gov/courses/PPP/index.html). *[NWS employees can have this course added to their permanent training record if taken through the LMS (keyword: Public-Private)]* These Web sites contain a series of interactive and engaging modules based on a short course at the Public-Private Sector Partnership Conference held in June 2006 at Howard University. About 50 people representing both the public and private sectors attended the workshop, which was sponsored by the National Oceanic and Atmospheric Administration (NOAA) and National Council of Industrial Meteorologists (NCIM).

The workshop was created by Ed Johnson, Director, Office of Strategic Planning and Policy, and John Toohey-Morales, CBM, CCM, after the revision of the NOAA Partnership Policy. While there were many commonalities between the two sectors, dramatic differences often made working together very difficult. This workshop educates both sectors about these differences, striving to forge effective partnerships to grow the weather enterprise as a whole. Taking these modules will help NWA members join the multi-section dialogue that began at the conference.

Although many of us are somewhat familiar with each sector, you might be surprised by how the sectors have successfully partnered and how some of their roles overlap and complement each other. It is useful, then, to review the

first of the three sections that explain the roles and capabilities of each sector. The second and third sections give examples of partnerships between sectors, and translate the NOAA Partnership Policy in plain English so that people can actually access and use it to improve the enterprise.

An interesting lunch talk by a former NOAA Legislative Affairs Officer is included in video clip format. He reminds everyone how Congress works, the role Congress plays and does not play in the enterprise, and which House and Senate committees are most relevant. Additionally, the speaker gives tips on how to work with Congress and encourages us to create the enterprise we envision.

The remaining modules become increasingly interactive, first through a dialogue about how planning, funding, terminology, and work culture differ between the sectors. Then, you have the opportunity to apply what you have learned in two case studies that have no clear solution. We strongly encourage you to work on the case studies at the same time as your colleagues, not only to help you apply what you've learned to real-life situations, but to have more fun. Ultimately, the outcomes are up to you!



**Daphne LaDue and**  
**Pam Heinzelman**

## NICE COUNTRY FOR WEATHER FORECASTERS: NWA Member News

*Larry Rice, KOB-TV Albuquerque meteorologist and Chair of the NWA Broadcaster Seal of Approval Committee performs an interesting type of operational meteorology. He is a weather forecaster for movie film crews. He recently reached the height of this aspect of our profession when a movie he supported ("No Country for Old Men") won Best Picture in the 80<sup>th</sup> Academy Awards. The following is a story provided courtesy of "NewsBlues for TV Insiders."*

There's a scene early in the Coen brothers' where Llewelyn Moss (played by Josh Brolin) looks out across the panorama of West Texas (played by New Mexico), as lightning crackles and an ugly storm brews on the horizon. He does not seem bothered by the weather. He knows Larry Rice.

Rice is the veteran meteorologist at KOB-4-NBC in Albuquerque who works on the side providing precision forecasts for film crews that visit New Mexico. He got a screen credit in the 80<sup>th</sup> Oscar winning Best Picture as the "Weather Guru." Rice is also the current Broadcast Seal Chair for the NWA.

Forecasting weather for film production companies is important, because thousands of dollars in production costs hinge on whether to continue shooting or to shut down and take cover when storms are nearby. "The main thing the directors and producers want to know is: 'Will that storm nearby be affecting my shooting schedule anytime soon. By letting them know it WON'T affect them, they can keep shooting, and therefore save thousands of dollars in the long run, by not having to stop shooting while still paying the crew'" according to Rice. He says "That's what I do and I have built a reputation among production companies for various studios that come to New Mexico." Rice says, "Each big project I worked on, I had the chance to go visit the set for a day with my family, and I did get to meet many of the stars of the films. My kids particularly enjoyed meeting Josh Brolin on 'No Country.' Brolin who was one of the stars of the kid classic 'GOONIES', was kind enough to sign their DVD copy of 'GOONIES,' and graciously shared a wonderful story with my kids about the cast's 20th reunion for that classic. The movie folks both in front of the camera, and behind the scenes are very cool, and easy to work with and for."

His favorite scene from 'No Country'? "I was on the set when they shot the

scene along the Rio Grande, when Josh Brolin's character was attacked by a brown pit bull. It was a funny time because the rubber tongue fell out of the dog's mouth, and it took some time to staple it back in!"

"The first movie I worked was John Carpenter's 'Ghost of Mars.' They were filming most of this outside at night in August during monsoon season, so the crews depended on me for warnings on approaching thunderstorms. I even got an on camera mention for that one from Sandy King in the HBO 'First Look' on the movie, who said ... 'the New Mexico weatherman Larry Rice would call us and warn us of approaching storms.' That was so cool. They offered me a part as an extra, and though tempting, I decided I better stick to just providing weather forecasts. I never solicited any work. It just came to me, and I welcomed it with open arms."

"I have been called for a day or two at times for other movie projects like 'Wild Hogs', 'Not Forgotten', and 'Bordertown'. As a courtesy, I help out any time I can, but the biggest finished projects since 'Mars' were 'The Longest Yard,' which was a 30-day contract job for precision forecasting during the monsoon season when they were working at the Santa Fe Prison Yard.... and then 'No Country,' working for Bob Graf and the Coen brothers, who graciously agreed to give me a credit for my work."

As of this article, Rice is working with director Taylor Hackford ("Ray" & "An Officer and a Gentleman") on the production of 'LOVE RANCH', the story of the Mustang Ranch, Nevada's first legal brothel, and how it was created. 'Love Ranch' stars Joe Pesci, and Hackford's wife, Helen Mirren. Most of the principle filming is being done in New Mexico, which doubles for many of the outdoor scenes near Reno.

NWA's Larry Rice and a "No Country for Old Men" poster



*President, continued from front*

lengths to which the atmosphere rode the aforementioned meteorological setup to the extreme: the March 12-14, 1993 "Storm of the Century" and the "Great White Hurricane" of March 1888. Consider this: the 1993 "Storm of the Century" claimed the lives of 270 people, closed all major airports on the East Coast, and delivered a volume of water (in the form of snow) equivalent to 40 days flow of the Mississippi River at New Orleans (NCDC TR 93-01). Over 400 people lost their lives during the devastating snowstorm of March 1888, 200 alone in New York City which endured blizzard conditions for three days! I recommend "Blizzard! The Great Storm of '88" by Judd Caplovich if you want a comprehensive accounting of the 1888 storm accompanied by jaw-dropping photographs.

Historical weather events like the March 1993 "Storm of the Century" and the 1888 "Great White Hurricane" will occupy the centerpiece of the types of presentations you will encounter in Louisville at the 2008 NWA Annual Meeting. The Annual Meeting Program Committee spearheaded by John "Live Wire" Gordon is planning an agenda that will captivate, enthrall and entice you into participation. The call for abstracts went out in the February issue of the Newsletter. Please refer to the 33<sup>rd</sup> NWA Annual Meeting Web page for specifics on professional development opportunities, abstract submission and information on the Galt House Hotel and Suites ([www.nwas.org/meetings/nwa2008/index.php](http://www.nwas.org/meetings/nwa2008/index.php)). The theme of this year's meeting is "Utilizing Our Past to Improve Our Future", and to that end I want to provide you with more specific information on the

# THE NWA METEOROLOGICAL SATELLITE

## APPLICATIONS AWARD

### Call for papers!

**Undergraduate students are invited to write an original paper on meteorological satellite applications. The Award winner will receive a \$500 Grant and be invited to present their paper at the NWA Annual Meeting.**

The Meteorological Satellite Applications Award Grant was established by the National Weather Association (NWA) in 1999 to stimulate interest and foster the study and use of satellite remote sensing data in weather analysis and forecasting. The award is sponsored by Frances Holt, a member of and past Chair of the Remote Sensing Committee. Themes of the undergraduate papers may include original research, case studies, or a survey of applications. The student must be enrolled as an undergraduate at the time the paper is written and be in good academic standing at the college or university attending. The student also must be a U.S. citizen or hold permanent resident status.

**Submission of Papers:** Student papers should not exceed ten (10) pages including photographs and appendices.

Candidate authors should submit:

- two printed copies of their paper and a copy on CD (preferably in Word) with figures in JPEG as appropriate,
- a letter of application with the paper title, university affiliation and contact information including mailing address, phone and e-mail address, and
- a letter from their Department Head or other faculty member that confirms the student author was an undergraduate when the paper was written and that the student is in good academic standing at the college or university. Additionally this letter should highlight the original research or contributions the student has made to this paper.

**Formal announcement of the award recipient will be made in October at the 2008 NWA Annual Meeting in Louisville (and earlier to the individual).**

A flyer to promote this opportunity is online: [www.nwas.org/committees/rs/2008\\_NWA\\_MetSat\\_Award\\_Flyer.pdf](http://www.nwas.org/committees/rs/2008_NWA_MetSat_Award_Flyer.pdf).

**Submissions should be sent by June 15, 2008 to:**

National Weather Association  
Attn: MetSat Applications Award  
3794 Cluny Point  
PO Box 342B  
Lakeville, NY 14480-0911

agenda. The annual meeting will kick off Monday morning with a keynote address by Tom Skilling, WGN-TV Chief Meteorologist. We anticipate on the order of 15 separate sessions including specific talks on selected historical floods, blizzards, wind storms, heat waves, tropical cyclones, and tornadoes. This year's theme will be carried throughout the week with sessions devoted to understanding societal response to hazard, current and future remote sensing techniques, and weather forecasting in the Year 2020. I anticipate additional keynote talks later in the week as well as the much anticipated year in review given by Greg Carbin, SPC WCM.



Most of the sessions at the 2008 Annual Meeting will consist of invited talks and those accepted for oral presentation from the list of submitted abstracts. I am confident that the breadth and depth of these anticipated presentations will generate a lively discussion throughout the meeting. I want to encourage our membership to submit an abstract for consideration in this year's meeting. Please keep in mind that it is the Program Committee's intention to adhere to the stated theme's objective: examining past events as a tool to improve future forecasts and a greater protection of life and property. See you Louisville!

**John Scala, President**  
[President@nwas.org](mailto:President@nwas.org)

### April 15: It's More Than Tax Day

Remember that April 15 is the deadline for submitting scholarship nominations for both the Arthur C. Pike Scholarship in Meteorology and the David Sankey Minority Scholarship in Meteorology.

Details on both are available in last month's newsletter and on the NWA Web site: [www.nwas.org](http://www.nwas.org).



# Call for Nominations for the 2008 NWA ANNUAL AWARDS

The National Weather Association began its annual awards program in 1977 to provide deserved recognition to those individuals involved in operational activities. The NWA Annual Awards Program recognizes the professional as well as the volunteer. The emphasis is on the people who perform the day-to-day tasks of providing meteorological information and weather support services to the public.

Please review the award categories carefully and use the category most appropriate for the nomination being submitted.

## Submitting Nominations:

**Please use the award cover sheet that can be copied from the NWA Web site at: <http://www.nwas.org/awards/awardnomination.pdf> or sent via Fax from the NWA office (call: 919-845-1546), attach a narrative nomination (up to two pages in length) with no more than three supporting letters of endorsement. Nominations should be mailed by **July 1, 2008** to:**

**NWA Awards Committee  
Daniel McCarthy, Chairperson  
228 West Millbrook Road  
Raleigh, NC 27609-4304**

Although there is no rigid time requirement for the awards, it is preferred that the accomplishment, if not on a continuing basis, occur within 18 months prior to the nominations. Self nominations will not be accepted. If the nomination is not selected as the winner, it will remain a valid nomination for two additional years unless the nominee(s) are no longer in positions applicable to the award. The nomination may be updated by the submitter in each of those additional two years. Presentation of the annual awards for 2008 will be made at the NWA Annual Meeting, Awards Luncheon, Wednesday October 15 at the Galt House Hotel & Suites in Louisville, Ky.

**Nominate your choice  
by July 1<sup>st</sup>**

## 2008 Award Categories are

### Operational Achievement Individual Award

This award is presented to a NWA member who has made a significant contribution to operational meteorology. This could be for an accurate and timely forecast for one or more significant weather events or for long-period achievement in operational weather support or related activities.

### Operational Achievement Group Award

This award is presented to a group of two or more individuals for a significant contribution to operational meteorology. At a minimum, a majority of the group (greater than 50%) must be NWA members.

### Member of the Year Award

This award is presented to a NWA member who has made significant contributions to the organization over a period of time.

### T. Theodore Fujita Research Achievement Award

This award is presented to a NWA member whose research has made a significant contribution to operational meteorology.

### Broadcaster of the Year Award

This award is presented to a NWA member Radio or Television weathercaster, or other member of the broadcast media, whose activities have significantly contributed to the development and presentation of quality and timely weather information to the public service. Radio and Television weathercaster candidates must be current NWA Seal of Approval holders and have had the NWA Seal of Approval for at least one year prior to being nominated for this award.

### The Larry R. Johnson Special Award

This award is presented to an individual or a group to recognize unique events or extraordinary accomplishments, which significantly contributed to operational meteorology.

### Walter J. Bennett Public Service Award

This award is presented to an individual or organization directly assisting the meteorological community in providing weather-related information to the public. Individuals and organizations in the meteorological profession are ineligible for this award.

### Public Education Award

This award is presented to an individual or organization providing significant contributions to increase the public's weather awareness.

### Local Chapter Award

This award is presented to a Local Chapter of the NWA whose activities have significantly increased awareness of the weather and of the NWA in their local area.

### Aviation Meteorology Award

This award is presented to an individual or group to recognize significant contributions to aviation meteorology, such as impact of operational forecasts on aviation operations or advances in aviation meteorology including research in detection and forecasting of aviation hazards.

**Other Special Achievement Awards** are detailed on the NWA Web site at: [www.nwas.org/awards/](http://www.nwas.org/awards/). Names of previous annual award winners and additional award information are also available on that Web site.

## 2008 Professional Development Opportunities

### **20th International Lightning Detection Conference (ILDC) and Second International Lightning Meteorology Conference (ILMC): April 21-25**

The ILDC will be held April 21-23 and the ILMC April 24-25. The theme is “*Realizing the Potential of Lightning Data.*” Both Conferences will be held in Tucson, Ariz. See [www.vaisala.com/ILDC](http://www.vaisala.com/ILDC) for more.

### **AMS Short Course on Dual-Polarization Weather Radar: Fundamentals and Applications: June 25, 2008**

This AMS Short Course will precede the 36th Conference on Broadcast Meteorology to be held in Denver, Colo. Learn more at [www.ametsoc.org/MEET/fainst/200836broadcast.html](http://www.ametsoc.org/MEET/fainst/200836broadcast.html).

### **36th Conference on Broadcast Meteorology: June 26-29**

The 36th Conference on Broadcast Meteorology – sponsored by the American Meteorological Society and organized by the AMS Board of Broadcast Meteorology – will be held in Denver, Colo. More information is available online at [www.ametsoc.org/MEET/fainst/200836broadcast.html](http://www.ametsoc.org/MEET/fainst/200836broadcast.html).

### **2008 American Association of State Climatologists Annual Meeting: July 7-10**

The AASC will hold their Annual Meeting at the Sheraton Burlington Hotel and Conference Center in Burlington, Vt. Visit [www.stateclimate.org](http://www.stateclimate.org) for more information.

### **2008 Air Weather Association Reunion: August 6-10**

The Air Weather Association will hold their 2008 reunion in Tacoma, Wash. The reunion hotel is the Best Western Tacoma Dome Hotel at 2611 East E Street, (800) 973-7110. For more information go to [www.airweaassn.org](http://www.airweaassn.org). You may also contact Don Farrington ([cdcfesf@aol.com](mailto:cdcfesf@aol.com)) or Kevin Lavin ([airweaassn@aol.com](mailto:airweaassn@aol.com)) for details.

### **12th High Plains Conference: September 4-5**

The 12th High Plains Conference will be held in Hays, Kan, sponsored by the High Plains Chapter of the AMS/NWA. Paper abstract can be submitted to [David.L.Floyd@noaa.gov](mailto:David.L.Floyd@noaa.gov). Watch [www.highplains-amsnwa.org](http://www.highplains-amsnwa.org) for details.

### **12th Annual Great Divide Workshop: October 7-9**

The Workshop will be held in Billings, Mont., and is sponsored by the NOAA/NWS Forecast Offices in Billings and Glasgow. More information is located at [www.wr.noaa.gov/byz/local\\_news/2008/divideo8.php?wfo=byz](http://www.wr.noaa.gov/byz/local_news/2008/divideo8.php?wfo=byz) or at (406) 652-0851.

### **NWA Annual Meeting: October 11 - 16**

The 33rd NWA Annual Meeting will be at the Galt House Hotel and Suites ([www.galthouse.com](http://www.galthouse.com)) on the waterfront in Louisville, Ky. More information is at [www.nwas.org](http://www.nwas.org).



*County Buildings in Denver, Colo.*

## HAPPY BIRTHDAY HOUSTON!

The **Weather Museum in Houston**, the only weather museum in the United States, celebrates its 2<sup>nd</sup> anniversary on April 22, 2008!!!

Some of the highlights include a tornado chamber... you can touch the tornado! The museum has its own weather studio. So, you can record a weather broadcast. Imagine showing that to your friends and family! The 3D weather globe is not to be missed. You can watch satellite loops of an entire hurricane season and see how the catastrophic tsunami of 2004 was felt around the world. And of course, there is much more, including the history room, with its collection of historical meteorology equipment and papers.

The museum was founded by Jill F. Hasling, current NWA Councilor, and her father, Dr. John C. Freeman, both Certified Consulting Meteorologists and Fellows of the American Meteorological Society. To date, more than 800,000 people have participated in the programs offered through the efforts of Hasling and Freeman, including weather camps which inspire children to pursue careers in math and science. The Weather

Museum and Weather Research Center (WRC) participate in numerous outreach activities including the annual Museum Day in Houston and they sponsor a Golf Tournament in the spring. This year's tournament will be held Friday, April 18<sup>th</sup>. The WRC also continues to work for various clients especially in the energy industry. And, the WRC continues its very important meteorological groundbreaking research about orbital influences on the atmosphere and long range prediction. They also do marine and tropical weather forecasting for the community and corporate clients.

The Weather Museum is so much more than just a museum. It provides a place where the young are inspired to pursue careers in math and science.

Satisfy your desire to learn more about weather while being a part of the solution! Help make math and science fun and cultivate the nation's next generation of scientists and engineers. For more information, call (713) 529-3076 or go to [www.weathermuseum.org](http://www.weathermuseum.org).

## Seven New NWA Weathercaster Seals of Approval Awarded

The individuals to the right were recently awarded the NWA Weathercaster Seal of Approval. *Congratulations to each of you!*

The Seal certification number format (yymm###) includes the last two digits of the approval year and two digits for the approval month followed by a successive number (numbers began with 101). To view the entire list NWA Weathercaster Sealholders, or to learn more about applying for the NWA Weathercasters Seal of Approval, go to [www.nwas.org/seal-holders.html](http://www.nwas.org/seal-holders.html).

Seal #	Name	Address	Station
0801952	Crystal Egger	Denver, Colo.	FOX31
0802953	Brian P. Schroeder	Altoona, Pa.	WTAJ-TV
0802954	Brad M. Wills	Yuma, Ariz.	RTV KYMA-TV
0802955	Brandon C. Roux	Galena, Ohio	CLEAR CHANNEL COMM
0802956	Mark J. Taylor	Dublin, Ohio	OHIO NEWS NETWORK
0802957	Markina Brown	Westlake, Ohio	WOIO/WUAB-TV
0802958	Ian Hall	Hagerstown, Md.	WHAG-TV NBC25

## Dates 2 Remember

**April 15:** Sankey and Pike Scholarship applications due

**May 15:** Scofield and AccuWeather Scholarship applications due

**June 15:** Meteorological Satellite Award papers due

**July 1:** NWA Annual Award nominations due

**August 1:** Sol Hirsch Education Fund Grant applications due

**October 11 – 16:** 33rd NWA Annual Meeting, Louisville, Ky.

For more information on these and other Professional Development Opportunities see page 7 or visit [www.nwas.org/events.php](http://www.nwas.org/events.php)

### NWA Newsletter (ISSN 0271-1044)

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Submit newsletter items directly to the NWA office or to [nwanewsletter@nwas.org](mailto:nwanewsletter@nwas.org). Material received by the 25th will be considered for the next month's issue.

Members receive the Newsletter and *National Weather Digest* as part of their regular, student or corporate membership privileges. Newsletter subscriptions are available for \$18 per year plus extra shipping costs outside U.S. Single copies are \$1.50. Please contact the NWA office with address changes.

**National Weather Association**  
**228 W. Millbrook Rd.**  
**Raleigh, N.C. 27609-4304**  
 Supporting and promoting excellence in operational meteorology and related activities since 1975.