

## PRESIDENT'S MESSAGE

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**by Paul Croft**

The month of October brings many changes for us – both in the NWA and in the weather and climate systems. It is a time of change, following the passage of direct sunlight across the equator in late September to the Southern Hemisphere. Across the continental US there is a chill in the air, crisp fall colors appear, and even a few snow flakes begin to fly while tropical cyclones still linger over the Atlantic and Gulf of Mexico and threaten the US coastline.

The weather has brought many operational challenges this year, including a record number of tropical systems in August and September with major impacts to Florida – and the eastern United States – that stand out in modern climatic history. These will likely prove to be unparalleled in our historical records in terms of the cost in lives and property due to the winds, tornado outbreaks, storm surges, and flooding that severely damaged or destroyed major infrastructure in several states. We offer our thanks to those providing important operational information to the public before, during, and after those devastating events – and prayers and support to all who have suffered, and continue to suffer, from the effects of the severe weather.

October is also a season of change and renewal for the NWA as we hold our Annual Meeting, take stock of our programs and prepare to elect new officers and councilors for next year. It has been a very productive year for the NWA as we have taken on new initiatives, continued our strong presence within the operational community, and excited the active participation of many members.

It is also a time when we see renewed interest and determination of our membership and the introduction of new members, especially students. As cliché as it may sound, our students are the future of operational meteorology and are critical to improving services to the public. We all have a stake in their progress as they learn not merely from books and instructors, but from the operational community who put into practice the discipline of meteorology and the research and applications that move the science forward.

Yet sometimes we do not invest enough time in helping our students learn the value of communications – communications in terms of providing information and products, conversing with the user community rather than “talking at” them, understanding what the user really needs and wants, and giving the user the most timely and accurate product/service in a format most useful to them. Such communication skills are not established overnight, and sometimes we need to remind ourselves of their importance. Such communication skills require exposure to a diversity of communities and interests within operational meteorology.

It is my belief that the NWA is that diversity of communities. We are all, in one manner or another, working for our clients and painting the picture of weather as we tell the story of impacts and dangers. Along the way we pick up a variety of technologies that assist us in portraying the physical reality of our current and forecast weather environment to our clients. With time have come advances that allow us to do this with greater precision in time and space.

However, more important than any technology or technique is our eventual action and reaction to the feedback we receive from our clients. This is a direct measure of how effectively we have been communicating and illustrates very clearly when there is misinformation, misinterpretation, or lack of understanding. In the classroom, if any one of these occurs with a student it is the instructor who must rectify the situation – meeting the student halfway. So it is with us in the operational community – we must accommodate our clients by correcting any communication deficiencies through an iterative process until we have met our obligations. We must not forget that this also applies to all of us when working with one another in our diverse organization.

We are stronger for this – when we work directly with our clients – because it forces us to share directly with them their hopes and fears, and in some cases their suffering, loss, and grief. We are stronger when we do this together in the NWA – in spite of varying duties and purposes – we share a common concern and a common need to communicate. We hone our abilities and improve our science so that our delivery improves in every aspect of what we do for our clients – and with each other.

*- Yours in Service – Paul Croft*

## MEMBER NEWS

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**Stephen W. (Steve) Harned**, NWA charter member and 1992 President, **has retired from the National Weather Service after a 36-year career.** His career began in the U.S. Weather Bureau while he was attending Florida State University. After receiving his B.S. degree in meteorology in 1970, he entered the US Navy and served a 3-year tour as a weather officer in Spain before resuming his NWS career in Lubbock, Texas. Steve's other NWS tours included serving as Meteorologist in Charge of the Raleigh, NC and Houston, TX NWS offices; forecasting positions in Raleigh, NC and Anchorage, AK; and, two program management assignments at the NWS Headquarters.

As Meteorologist-in-Charge of the Raleigh NWS Forecast Office for the last 14 years of his career, he led an office that received several awards. These included the Department of Commerce (DOC) Gold Medal for Hurricane Floyd operations, and DOC Bronze Medals for Hurricane Fran operations and services provided before and during the Great December 2002 Ice Storm. The office also received a NOAA Unit Citation in 1997 for national leadership in fostering a very successful and productive collaborative research relationship with North Carolina State University. Stephen W. Harned and all members of the NWS Forecast Office, Raleigh, North Carolina also received an NWA 25th Anniversary Award in grateful appreciation for their time and talents in planning and organizing all the activities associated with the NWA 25th anniversary celebration.

Steve's entire federal career was associated with operational meteorology and, as such, has always been an enthusiastic supporter of the NWA. He led the organizing efforts for the 1993 Annual Meeting in Raleigh and the 25th Anniversary Meeting in Gaithersburg in 2000. He considers his greatest contribution to the Association being, that while he was president in 1992, Kevin Lavin was chosen to be the Executive Director. He was also very honored to receive the **NWA Member of the Year Award in 1994.**

Since retiring, Steve has opened a meteorological consulting firm, *Atlantic States Weather, Inc.*, based in Cary, NC.

**James E. Lee** has been **appointed Meteorologist in Charge of the NWS Forecast Office in Sterling, Virginia.** For the last three and a half years, Jim served as chief of the Fire and Public Weather Services Branch, of the Office of Climate, Water, and Weather Services, at NWS headquarters in Silver Spring, MD. Other posts include seven years as science and operations officer at the NWS Forecast Office in Taunton, Mass., and five years with the Office of System Development and NEXRAD Joint System Program Office at NWS headquarters.

**Barbara Watson**, has reported as **the Meteorologist in Charge of the NWS Forecast Office in Binghamton, NY.** Barbara was formerly the Warning Coordination Meteorologist in the NWSFO in Sterling, VA.

Recently, the Aviation Services Branch, National Weather Service Headquarters, announced its Aviation Awards Individual and Team of the Year for 2003. **Jeffrey S. Tongue, Science and Operations Officer at NWS Weather Forecast Office (WFO) in Upton, NY was selected as individual of the year.** "Jeff worked locally and nationally to take the WFO Upton aviation forecasting program to a higher level, insuring the office implemented the newest scientific methods," according to the award nomination. "Along with instituting many different climatological programs designed to aid the forecaster, he also developed a terminal forecast reference notebook that emphasizes climatology and forecast rules of thumb." Tongue also visited customers in his local area, such as Automated Flight Service Stations (AFSS), the New York Center Weather Service Unit (CWSU), and Observation/Terminal Aerodrome Forecast sites, taking forecasters or interns with him and using the visit as a familiarization and training tool.

The team award was presented to the NWS Eastern Region (ER) Aviation Best Practices Team. Team members included **Frank Kieltyka**, Meteorologist, WFO Cleveland, OH; and **Ken Kostura**, Meteorologist, WFO Blacksburg, VA. The six-member team created a document summarizing aviation best practice information gathered from offices across ER and then published it as a benchmark for ER WFOs and CWSUs to bring their aviation programs to a uniform level. Additionally, team members were deeply involved in numerous outreach, education, and research program initiatives with other government agencies and customers. – NWS Focus

**Jonathan Slemmer** was the **Second Quarter recipient of the NWS Aviation Awards Program.** Jonathan is an Aviation Forecaster at the NOAA/NWS/NCEP Aviation Weather Center (AWC) in Kansas City.

Jonathan primarily works the Collaborate Convective Forecast Process and Convective SIGMET desks. In addition to his operational duties, Jonathan's self-motivation allowed him to develop Convective SIGMET four-year climatology. His creative method of graphically plotting the Convective SIGMET "0-hour" snapshots showed immediate, intuitive results. On his own, he developed an end-to-end process for downloading archived Convective SIGMETs directly from the National Climatic Data Center and transforming the text base aviation weather advisory bulletins to an intuitive graphic format. Jonathan's research clearly captures convection that has a direct impact on aviation, and his efforts have showed immediate results. His Convective SIGMET

Climatology graphics were used by Aviation Daily to verify FAA reasons for an inordinate number of air traffic delays during May 2004. The graphics, used to brief senior Air Traffic Control System Command Center leadership and the Director of Air Traffic Operations, proved so useful the FAA has requested the NWS provide these graphics monthly. Jonathan developed a Convective SIGMET Climatology poster for display at the Aviation Weather Center, and he has also been selected to present his work at the AMS 11th Conference on Aviation, Range, and Aerospace Meteorology, 4-8 October 2004, in Hyannis, Massachusetts.

**Richard Vogt** was recently appointed Director of the NWS NEXRAD Radar Operations Center (ROC) in Norman, Oklahoma.

Rich is a meteorologist with 35 years of broad-ranging leadership experience with an emphasis in weather forecasting, radar meteorology, systems acquisition, life-cycle systems support, and program management. He has served as the ROC's deputy director since October 1993 and as acting director since May 2003. During this period, he also provided leadership for the Headquarters US Air Force Weather Agency (AFWA) contingent at the Radar Operations Center.

A 25-year veteran of the U.S. Air Force, Vogt's career included executive-level experience as a colonel in a variety of key leadership positions. He has served in diverse locations throughout the United States, as well as in Korea, Japan, and Germany. His military career culminated in an assignment as deputy director of weather at U.S. Air Force headquarters before his retirement from active duty in February 1993.

Rich Vogt earned a Bachelor of Science degree in education and chemistry from Southwestern Oklahoma State University in 1967, and a Master of Science degree in meteorology from Texas A & M University in 1972.

As ROC director, Rich oversees a wide variety of critical support functions for the \$1.2 billion WSR-88D network. The Center provides expert maintenance and operations assistance to resolve radar problems and outages via a 24-hour helpdesk and on-site maintenance. The ROC also conducts system engineering and software engineering projects to resolve system deficiencies and upgrade radar network capabilities. The center collaborates with government laboratories and universities to transition new science from research to the operational radar systems. To support these functions, the center operates extensive radar testing resources, as well as state-of-the-art configuration management and system documentation systems. The United States Air Force, Federal Aviation Administration, and the National Weather Service operate the WSR-88D radars.

## ◀ IN MEMORIAM ▶

**Gandikota V. Rao, Ph.D., (1934-2004)** passed away on Saturday, July 31, 2004, at the age of 70. Dr. Rao was a Professor of Meteorology and the Chairman of the Department of Earth and Atmospheric Sciences, Saint Louis University, Saint Louis, Missouri. Dr. Rao was born July 15, 1934, in Vizianagram, India. He became a U.S. citizen in 1977. Dr. Rao earned master's degree in physics from Andhra University in Waltair, India, in 1955. He earned a doctorate in meteorology from the University of Chicago in 1965. He joined the SLU faculty in 1971 and was a greatly admired and truly beloved member of the University community. He was involved with several professional organizations, including the AMS and NWA.

Dr. Rao's research focus was on tropical weather, and he was involved in a number of operationally oriented research projects working with National Weather Service forecasters, particularly in the area of tropical cyclones. With this research, he furthered our understanding of how tornadoes and severe convective winds are produced within landfalling tropical cyclones, and this information was shared with NWS operational forecasters through seminars and other presentations. A long time member of the NWA, he had attended several recent Annual Meetings where he shared his research with the operational community at large. Dr. Rao was a well-respected and admired instructor who was involved in the training and education of a large number of operational meteorologists over the past 30 years.

Dr. Rao was tragically killed in a swimming accident while in Mexico participating in a research project focusing on another of his strong research interests, the monsoon phenomenon. While he will be deeply missed by the meteorological community, he leaves a legacy of contributions to the operational forecaster's understanding of tropical weather phenomena, and of scientists and operational forecasters whom he educated and influenced throughout his career.

Dr. Rao is survived by his wife, Mrs. Vidya Rao, a daughter, Dr. Anita Rao and son, Madhu Rao.

In lieu of flowers, the family has asked that donations be made to the G.V. Rao Memorial Scholarship in Meteorology. Donations may be mailed to Saint Louis University Tribute Fund, P.O. Box 8005, St. Louis, MO, 63156-9950. Please indicate that the donation is for the Dr. G.V. Rao Memorial Fund.

With the approval of the NWA Council, a check for \$200 was sent to the Dr. Rao Memorial Fund on behalf of all NWA members.

## SPECIALIZED OPERATIONAL SERVICES COMMITTEE

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This NWA standing committee's primary goal is to address and monitor issues of importance to specialized operational weather service providers in agriculture, air quality, fire weather, marine, and other specialized areas not covered by other committees. In 2003, the committee added a new focus area of interest, Road Weather, dealing with the hazardous weather conditions that can create critical impacts on the transportation and aviation industries. Major weather events, such as a snow or ice storm, can easily cause slick and dangerous conditions for roads, bridges, and runways. Thus, it is important to know how a certain weather event will affect the pavement conditions of highways and airfields and be prepared for such conditions.

Another focus area recently added to the committee, Operational Climatology, will be increasingly useful for the operational weather community. Committee member Rich Dixon explains the usefulness of this focus area.

*“Operational climatology can be approached from a number of different perspectives. In one sense it can be considered analogous to traditional short-term weather monitoring and forecasting at an extended time horizon. Climate Prediction Center products such as the seven to ten day and seasonal forecasts for temperature and precipitation are good examples. These represent an extension of the current short-term probability forecasts issued daily as part of the weather forecast. They directly impact the second reason for maintaining a National Weather Service, economic benefit to the country. Real time monitoring and tracking of important climatic variables such as the MJO, ENSO, NAO, PAO, etc. along with the Palmer Drought Index provides critical information for preparation of short term and seasonal forecasts. In addition, products and services developed using climatic indices inform decision makers in many fields such as water resources and emergency management.*

*Another aspect of operational climatology is as a refinement of the “local knowledge” all successful forecasters develop of their forecast areas. A good forecaster modifies guidance forecasts based on their local experience of sub-synoptic scale impacts. For example: “cold-air drainage always results in this area being cooler”, or “that area is in a small-scale rain shadow”. Information derived from climatological studies at a variety of “supra-synoptic” scales can also benefit particular forecasts. Operational climatologists conduct studies of individual events within a context of Interannual (or other scale) variability. For example, is a particular ENSO phase associated with greater than expected precipitation per storm event, or longer “burn-off” times for fog, or an increased risk of tornadoes? These types of*

*studies extend the forecaster’s “local knowledge” both temporally and spatially and are directly related to the primary reason for a national weather service - the protection of life and property.*

*A third important aspect related to operational climatology is in the area of communication with the public. NWA President Paul Croft touches on this aspect in the February 2004 Newsletter when he identifies a need to incorporate measures of variability into some forecasts. This is especially true with respect to hazardous weather. Climatologists make their living in this variability, we need to do a better job communicating that to the public.”*

The committee is currently analyzing the results of the NWA membership survey and will be proposing to add a committee co-chair. The Committee Web site, [www.nwas.org/committees/smos/index.html](http://www.nwas.org/committees/smos/index.html) is packed with information about air quality, agriculture, fire weather, marine, road weather and operational climatology. Please check it out, and we would appreciate your comments/suggestions to help us better serve the operational weather communities and NWA members.

*- Hugh McRandal, Committee Chair*

## CLIMATE FORECAST SYSTEM

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On 24 August 2004, NOAA/NWS National Centers for Environmental Prediction (NCEP) implemented, as part of its operational suite of numerical prediction models, a new Climate Forecast System (CFS). The CFS consists of the current NCEP atmospheric spectral Global Forecast System (GFS) model, but with a horizontal resolution of approximately 210 km and 64 layers in the vertical, coupled to version 3 of the 40-level Global Fluid Dynamics Lab Modular Ocean Model (MOM3), and using the NCEP Global Ocean Data Assimilation (GODAS) for initialization. **The CFS will run at 0000 UTC each day to generate a 10-month forecast.**

This new seasonal forecast system unifies the NCEP atmospheric models used for weather and seasonal forecasts. CFS will also replace the current NCEP operational coupled seasonal forecast model used for Sea Surface Temperature (SST) prediction. It is the first system capable of producing skillful operational climate forecasts using a fully interactive computer model of the ocean-land-atmosphere system. Historically, the operational seasonal forecast process has relied mostly on empirical methods that use knowledge of past conditions and trends to make projections about the future. These methods are based largely on statistical relationships rather than the actual physical laws that govern the behavior of the climate system. An important aspect of the CFS involves the explicit representation of the interaction between the ocean and the atmosphere. These interactions are critical to determining the evolution of Earth's climate on seasonal time scales.

Thus, the CFS is a new and valuable tool that will complement and significantly improve upon the existing seasonal forecasting process.

*- Lauren Morone, NWS/NCEP*

## HOW COOL WAS THIS SUMMER?

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Preliminary data indicates that this summer (June-August) was the 16th coolest summer on record for the contiguous U.S., according to scientists at the NOAA/NESDIS National Climatic Data Center (NCDC). The average temperature during that time period was 71.1 F, which was 1.0 degree F below the 1895-2003 mean. The mean temperature in 30 states was significantly below average, with only three states (Nevada, Washington and Oregon) averaging much warmer than the long-term mean. Alaska had a record warm May, June and July, and though final numbers are not yet available, August and the summer was very warm across the state.

Nationwide, this was the 10th wettest summer, with dryness remaining in parts of the Southwest and northern Plains, but the southern region (Texas, Louisiana, Mississippi, Arkansas, Oklahoma and Kansas) had its wettest summer on record.

The drier-than-average conditions, along with warmer-than-normal temperatures in the West, exacerbated the long-term drought conditions in some locations. Reservoir levels also remained below average in many areas. At the end of the summer, 69 percent of the western U.S. was in moderate-to-extreme drought, compared with 76 percent at this time last year, based on a widely used measure of drought, the Palmer Drought Index.

- NOAA Public Affairs

## A weak EL NIÑO RETURNS

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The NOAA/NWS/NCEP Climate Prediction Center (CPC) announced in September that a weak El Niño has returned in the tropical Pacific and this condition is expected to continue into early 2005.

In August, Sea-Surface Temperatures (SSTs) were more than +0.5°C (~1°F) above average in the central and western equatorial Pacific. By the end of September, positive SST anomalies greater than +0.5°C were found between 155°E and 110°W, with anomalies greater than +1°C extending from 160°E eastward to 120°W. The onset of an El Niño event is declared when the three-month average SST departure exceeds +0.5°C in the east-central equatorial Pacific and this has occurred for the June-August period. To be considered a full-fledged episode, these conditions must be satisfied for at least five consecutive three-month seasons.

Because the impacts of an El Niño event depend on variables such as the intensity and extent of warming in the tropical Pacific, it is unclear at this point how this particular event will impact the U.S. Through the end of September, conditions were not yet indicative of a basin-wide El Niño. This lack of basin-wide warming indicates this El Niño is likely to be much weaker than the 1997-1998 event. More information about this El Niño event is available in the CPC El Niño/Southern Oscillation (ENSO) Diagnostic Discussion on Web site: [www.cpc.ncep.noaa.gov](http://www.cpc.ncep.noaa.gov).

## CORPORATE MEMBER NEWS

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*Welcome to new NWA corporate members!!!*

### **CONDOR RELIABILITY SERVICES, INC.**

3400 DE LA CRUZ BLVD UNIT R  
SANTA CLARA, CA 95054  
Tel: 408-486-9600; Fax: 408-486-9606

Point of Contact:

Hemant Patel e-mail: [HEMANT@alpa-tech.com](mailto:HEMANT@alpa-tech.com)

### **MIDLAND RADIO CORPORATION**

1120 CLAY ST  
NORTH KANSAS CITY, MO 64116  
Tel: 816-241-8500x215; Fax: 816-241-5713

Web site: [www.midlandradio.com](http://www.midlandradio.com)

Point of Contact:

Bruce Thomas e-mail: [bthomas@midlandradio.com](mailto:bthomas@midlandradio.com)

### **WEATHER METRICS, INC.**

14645 W 95TH ST  
LENEXA, KS 66215-5216  
Tel: 913-438-7666; Fax: 913-438-2666

Web site: [www.weathermetrics.com](http://www.weathermetrics.com)

Point of Contact:

Peter Levy e-mail: [sales@weathermetrics.com](mailto:sales@weathermetrics.com)

## MEETINGS OF INTEREST

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□ **The Fifth Annual Southern New England Weather Conference will be held 6 November 2004 in Brookline, Massachusetts.** The Southern New England NWA Chapter and other local agencies sponsor it. The conference will be held at the Clay Center for Science & Technology. For detailed information on the conference, see Web site: [www.erh.noaa.gov/box/announcement/2004NEWxConf.html](http://www.erh.noaa.gov/box/announcement/2004NEWxConf.html).

□ **The American Meteorological Society will hold its 85th Annual Meeting from 9 - 13 January 2005 at the San Diego Convention Center, San Diego, California.** All details are available at Web site: [www.ametsoc.org](http://www.ametsoc.org)

□ **National Severe Weather Workshop 2005 will be held at the Reed Center in Midwest City, OK, 3 - 5 March 2005.** It is sponsored by many NOAA offices, the Oklahoma Emergency Management Association and the Central Oklahoma Chapter of the American Meteorological Society/National Weather Association. It will feature the nation's premier severe weather experts discussing their latest research and forecasting techniques. Speakers will include forecasters and researchers from the NOAA Weather Partners in Norman, OK: Storm Prediction Center, National Severe Storms Laboratory, Warning Decision Training Branch, Radar Operations Center and the NWS Norman Weather Forecast Office. Designed for emergency managers, storm spotters and other weather enthusiasts, the workshop offers a unique opportunity to learn about the NWS outlook, watch and warning process, severe weather preparedness and safety, StormReady, EMWIN, severe storm risks, lightning effects, wind damage effects and new ways to get radar data. Spotter training will be offered in conjunction with the workshop. More information is at Web site: [www.norman.noaa.gov/nsww2005/](http://www.norman.noaa.gov/nsww2005/)

□ **The Fourth Southeast Severe Storms Symposium will be held 4 - 6 March 2005 at Mississippi State University.** The East Mississippi NWA & AMS Chapter sponsors it. **Abstracts** are currently being accepted and should be sent electronically in Word or WordPerfect format to Jeffrey Craven at [jeffrey.craven@noaa.gov](mailto:jeffrey.craven@noaa.gov) **before 1 December.** For more about the symposium and specific abstract submission information, go to the Web site: [www.msstate.edu/org/nwa/symposium.htm](http://www.msstate.edu/org/nwa/symposium.htm).

□ **The 30th Northeastern Storm Conference will be held on 18 - 20 March 2005 in Burlington, Vermont.** The Lyndon State College AMS & NWA Chapter sponsors it. The conference will be held at the Sheraton Hotel. For more information, please go to the chapter's Web site: [apollo.lsc.vsc.edu/ams/index.html](http://apollo.lsc.vsc.edu/ams/index.html).

□ **The 2005 Severe Storms and Doppler Radar Conference will be held 31 March - 2 April 2005 in West Des Moines, Iowa.** The Central Iowa NWA Chapter sponsors it. The conference will be held at the West Des Moines Marriott. If you have an idea for an invited speaker, or would like to present at the conference, please email the Chapter President Mitch Keegan at [mjkeegan@myway.com](mailto:mjkeegan@myway.com). Registration will open in mid-November. For more information, see the Web site: [www.iowa-nwa.com/conference/index.html](http://www.iowa-nwa.com/conference/index.html).

□ **AIR-MASS 2005 Mid-America Storm Symposium will be held 14 - 15 April 2005 in Wichita, Kansas.** The Wichita AMS & NWA Chapter sponsors it. The conference will be held at the historic Radisson Broadview Hotel. Oral, poster, and breakout session presentations are now being accepted. In addition to the science-sharing presentations, a couple of special events are planned including a commemoration of the 50<sup>th</sup> anniversary of the Udall, Kansas, tornado. Details about the conference, and instructions for submitting abstracts, can be found at Web site: [wichita-amsnwa.org/index.php](http://wichita-amsnwa.org/index.php).

□ **The NWA's 30th Annual Meeting will be held at the Adam's Mark Hotel in Saint Louis, Missouri, 15 - 20 October 2005.** Watch the NWA Web site: [www.nwas.org/meetings/meetings.html](http://www.nwas.org/meetings/meetings.html) for details. Notify the NWA office at 434-296-9966 or [natweasoc@aol.com](mailto:natweasoc@aol.com) if you would like to help in organizing this special event.

## Congratulations to NSSL 40 YEARS YOUNG and GOING STRONG

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The NOAA/OAR National Severe Storms Laboratory (NSSL) in Norman, Oklahoma just had its 40th birthday and member Rodger A. Brown will brief on it at the NWA Annual Meeting in Portland this month. The abstract he and Keli Tarp (NOAA Public Affairs) sent in states, --

In 1964, the U.S. Weather Bureau's National Severe Storms Project (NSSP) moved from Kansas City to Norman and changed its name to the National Severe Storms Laboratory (NSSL). For the next 25 years, NSSL continued NSSP's (and its predecessors') long-standing tradition of improving understanding of severe storms by conducting a data collection program each spring that included surface and upper-air mesonetworks, research aircraft, and radars. Over the years, Doppler radars

(including dual polarization), an instrumented TV transmitter tower, storm intercept teams, and storm electricity measurements were added. In more recent years, spring programs have become more intermittent because of funding constraints, with many associated with national research programs (involving airborne Doppler radars) in the southern Plains. Since the early 1990s, various NSSL sensors have become mobile with the addition of mobile rawinsonde release vehicles, balloon-borne storm electricity sensors, mesonetwork instruments on the tops of cars, and Doppler radars on backs of trucks.

Early NSSL research has had a positive impact on improved public safety. Aircraft studies of turbulence in severe thunderstorms, called Project Rough Rider, during the 1960s, 1970s, and early 1980s led to improved commercial airline safety guidelines in the vicinity of thunderstorms. NSSL Doppler radar studies of thunderstorm mesocyclones and tornadoes during the 1970s led to the decision by the National Weather Service (NWS), U.S. Air Force's Air Weather Service (now AF Weather Agency), and the Federal Aviation Administration (FAA) to include Doppler capability in their updated operational Weather Radar networks. The WSR-88D has helped forecasters significantly improve severe thunderstorm and tornado warnings, saving countless lives. NSSL continues to support the NWS and FAA by developing and refining radar algorithms for identifying severe weather phenomena and estimating precipitation accumulations, and by helping to design better radar acquisition and processing equipment. A program is currently underway to collect data much faster using a newly constructed phased array Doppler radar.

By the mid 1980s, NSSL was developing an expertise in numerical modeling. Various techniques, including ensembles, are being investigated to improve the numerical prediction of storm-scale, mesoscale, and synoptic-scale processes. In 1997, soon after the National Severe Storms Forecast Center in Kansas City changed its name to the Storm Prediction Center (SPC), it moved to Norman. With the SPC being collocated with NSSL, there have been many opportunities for NSSL meteorologists to help SPC forecasters develop improved severe storm forecasting techniques, including the application of probabilistic forecasting techniques. Thus, through its various research activities during the past 40 years, NSSL has been instrumental in advancing the state of the art of severe storm detection and prediction.

### WEBMASTERS NEEDED

The NWA Web site ([www.nwas.org](http://www.nwas.org)) is maintained by terrific volunteers. **They could use more help!** If you are interested in assisting, please call the NWA office at 434-296-9966 or e-mail [natweasoc@aol.com](mailto:natweasoc@aol.com).

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## BROADCAST COMMITTEE NEWS

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### Preparing for Portland...

Summer is over, the leaves are changing colors in many areas of the country, daylight hours are getting shorter, and I recently received my itinerary for the week of 15-22 October...I am psyched! Heading to the NWA Annual Meeting has become an autumn tradition for me, and the more I go, the more I want to go. To be fair, though, I must admit that it's easier for me because my employer pays for the trip. Then again, I demanded that continuing education perk when I negotiated my contract, and I did so because the fall meeting is very important to me.

I hope to see many NWA broadcaster members there. If you attend, please let me know how you enjoyed it and how we can make it better. If you can't attend an annual meeting at least every three years, please let me know how we might be able to make the meetings more accessible. Send your thoughts to me at [rapuzzo@fuse.net](mailto:rapuzzo@fuse.net).

- Rich Apuzzo, Broadcast Meteorology Committee Chair

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## ALL ABOUT DERECHOS

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Bob Johns and Jeffrey Evans with advice from many others have put together a Web page on — all you want to know and more — about derechos. They even included sound to help you pronounce day-RAY-cho. The Web page is on the NOAA/NWS/NCEP Storm Prediction Center site at:

[www.spc.noaa.gov/misc/AbtDerechos/derechofacts#historic](http://www.spc.noaa.gov/misc/AbtDerechos/derechofacts#historic)

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## NWS Strategic Plan open for comments

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A draft of the new **NWS Strategic Plan for 2005-2010** is available for public comment. This strategic plan lays out the path the NWS will take to accomplish their mission, advance their vision, and integrate core values throughout NWS. The theme of this plan, "**Working Together to Save Lives**," reflects their commitment to work with all of their partners to provide the services America needs. The new plan conforms to the substance and structure of **NOAA's Strategic Plan**. In writing the plan, NWS authors considered all the input stakeholders provided at NOAA-sponsored meetings.

**The comment period extends through November 30, 2004.** The plan is at Web site: [www.nws.noaa.gov/sp/](http://www.nws.noaa.gov/sp/)

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## HAPPY THANKSGIVING!!!

From your NWA Council and staff.

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## JOB CORNER

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*The NWA posts jobs from equal opportunity employers at no cost, for the benefit of NWA members. **Please see the Job section on the NWA Web site ([www.nwas.org](http://www.nwas.org)) for more complete announcements and job links.** Members who do not have Internet capability may request announcements from the NWA office at (434) 296-9966. Employers should send job announcements via e-mail to [NatWeaAsoc@aol.com](mailto:NatWeaAsoc@aol.com).*

**MERIDIAN ENVIRONMENTAL TECHNOLOGY, INC.** has an opening in their Forecast Operations Center in Grand Forks, ND. Meridian offers meteorologists with the proper background, an opportunity to become part of the nation's leading forecasting team in surface transportation weather forecasting. Meridian offers an excellent benefits package including health/life/disability insurance, vacation/sick leave, 401(k) plan and flexible scheduling. **EDUCATION REQUIREMENTS:** Minimum - 4-year degree in Meteorology/Atmospheric Sciences or equivalent experience. **EXPERIENCE:** 1-3 years operational weather forecasting experience is desired, but all degreed candidates will be considered. **KNOWLEDGE &/OR SKILLS:** A good working knowledge of meteorological processes, forecasting techniques, and numerical model analysis is a must. Candidates must possess good oral and written skills and be able to meet deadlines in a fairly fast-paced environment. Knowledge of the Unix operating system and programming skills are pluses. **DUTIES:** Evaluating observed and numerically modeled weather data to create and issue specialized forecasts, primarily in support of the transportation industry; Nowcasting to support state-of-the-art in-vehicle traveler information systems; Assist other staff in designing, developing, and testing of new products or data integration and forecasting methods. **HOW TO APPLY:** Position is to be filled as soon as possible; apply quickly. E-mail resume, cover letter, and salary expectations, or inquiries, to [block@meridian-enviro.com](mailto:block@meridian-enviro.com) **OR** send by mail to: Meridian Environmental Technology, Inc., Human Resources Dept., 4324 University Ave., Grand Forks, N.D. 58203-1938

**3D RESEARCH CORP** has an opening for a weather observer at Andalusia MAP, Alabama. This is a full-time position and may require some shift work. The following requirements are mandatory for the position: A minimum of two years of manual observing experience. This is defined as the recording and dissemination of surface observations in support of DOD or FAA flight operations. The use of various meteorological and communications equipment is required. ASOS augmentation does not meet this requirement. Be a graduate of the DOD Weather Specialist Course or Weather Technician Course. A minimum of two years of experience in the use and operation of either AWDS, AMIS, or NTFS. Must be computer literate and able to operate MS Word, Excel, and Outlook. Must be eligible to be granted a SECRET security clearance. Please include the following information on your resume: locations of weather training; locations of experience, salary requirements, date of availability, dates of previous security clearances, current address, phone number, and e-mail address. 3D Research provides competitive wages, an excellent benefits package, retirement and 401k plans. EOE. Please send all resumes or inquiries to the following point of contact: Rocco Calaci, 745 NW Beal Parkway, Unit 10, Fort Walton Beach, FL 32547; e-mail: [rtroxell@3drc.com](mailto:rtroxell@3drc.com); Fax: 850-862-2756.

**RAPID WEATHER** has openings available for five regional sales managers. We prefer meteorologists who have sales experience, who are interested in making money, and there are opportunities to move from sales to forecast operations. The home office will provide you with the support you need to reach and exceed your income expectation of \$45,000 a year. Our products have been used around the world, so there is plenty of opportunity for growth. Commissions are paid weekly. Regional sales managers, as well as our local sales reps, can work from home if they want to. Additional details are available at our career link at our Web site: <http://www.rapidwx.com/>

*Please see the Web site for many more opportunities!*

