National Weather Association
Founded in 1975

NEWSLETTER

National Weather Association

MEMORIAL EDITION

No. 08 – 7 JULY 2008

Jerry La Rue, NWA Founding Father: Passes Away at Age 85

One evening in 1974, three men sat on the screened-in side porch at Jerry La Rue's home in the Maryland suburbs of Washington D.C. Joining Jerry were Tony Tancreto and Joe Rigney, chiefs of the National Weather Service (NWS) offices in Boston and Portland ME. Jerry was serving as the chief of the Washington NWS office. At that gathering the idea to form a professional meteorological organization dedicated to operational meteorology (basically forecasting and broadcasting) was hatched. In December 1975, the National Weather Association (NWA) was incorporated as a non-profit organization in the District of Columbia with the first officers being Jerry as President, Tony as Vice-President, and Joe Vazzo as Secretary-Treasurer.

The young organization immediately began growing and by early 1977, membership had exceeded 1,000 members coast-to-coast. All of the recruiting and marketing for the new association was done mouth-to-mouth and showed that the idea hatched on that side porch in 1974 was truly visionary and was going to fill a need in the profession of meteorology. After his year as President, Jerry went on to serve as the first Executive Director of the NWA until his retirement from both the NWS and the NWA in 1980. His basement in Maryland served as national headquarters, editorial and publications office, and conference center for the NWA.

Although many helped bring the association into existence, it never would have occurred without the leadership, drive, and focus of Jerry La Rue. As such, he was truly the Founding Father of the NWA!

Jerry graduated in meteorology from UCLA and entered the Weather Bureau at Peoria, Ill., in 1951. At the National Meteorological Center in Suitland, Md., in the early 1960s, he was instrumental in developing the first quantitative precipitation forecasting (QPF) process for the Weather Bureau. He was appointed Meteorologist-in-Charge of the Washington, D.C., Forecast Office in 1970. After retirement, he returned to his native California and literally built a home for his wife Georgene and himself in Sebastopol. He enjoyed his garden, orchard and vineyard, playing bridge, golfing and parties. He was a member of SIRS, Newcomers of Sebastopol and was an usher for 25 years at Santa Rosa Repertory Theater.

Jerry passed away on June 23, 2008, in Santa Rosa, California at the age of 85.

Steve Harned
Executive Director

Inside This Edition

It is with deep sadness that we dedicate this edition of the Digest to three individuals who left a strong legacy for our weather community:

Jerry La Rue
Edward N. Lorenz
Lt. Col. Calvin Naegelin (Ret.)

These gentlemen each left an indelible mark on our profession. They will be missed.

President's Message: Running Through the Plans

The exertion of running tends to free my mind of earthly concerns while allowing me to consider more clearly current responsibilities. I sort through, focus on and omit tasks of varying importance so when I complete my workout I can utilize those outcomes to plan my time more efficiently. I found myself engaged in this mental juggling while running along the Ohio River a few weeks ago during the NWA's mid-year business meeting in Louisville. It is our practice to schedule these day and a half discussions where the annual meeting will occur just a few months later. I would like to bring you up to date with our planning for the October meeting while emphasizing the unique set of opportunities available for students, several for the first time.

The Galt House will provide all accommodations for our annual gathering. You will find the meeting rooms spacious, featuring a floor plan designed to facilitate oral and poster presentations, vendor displays, as well as group and individual discussions. The hotel is located a short walk from a broad assortment of eateries and just a stone's throw from the river walk which was recently renovated. It offers a great view of the waterway in a setting closely resembling a portion of the river front in St. Louis.

A draft agenda was presented at the mid-year business meeting by Angela Lese, a forecaster with the local NWS office in Louisville and a member of John Gordon's Program Committee. It was greeted with unanimous approval and even a few "Wows!" Angie reported submission of a record number of abstracts to the committee. Their hard work transformed from a mountain of submissions to consider into a well designed sequence of 26 scientific sessions including two keynote addresses and more than 15 invited talks.

A slice of the agenda's rich content includes presentations on river flooding, weather analysis and forecasting, tropical weather, instrumentation and techniques, winter weather, cool season tornadoes, aviation weather and two sessions on historic weather. Over 100 posters will be displayed in three separate sessions designed to enhance visibility of their content. Poster session chairs will be equipped with wireless microphones enabling each to walk through the poster hall and interact with presenters.

Mid-Year NWA Council Meeting held in Louisville June 13-14. From left to right; Steve Harned, Ruth Aiken, Steve Zubrick, Jill Hasling, Troy Kimmel, Liz Quoetone, John Scala, Janice Bunting, Alan Gerard, Elise Johnson, Jeff Waldstreicher, Faith Borden, Bruce Thomas, Cynthia Nelson, Scott Rochette, Ralph Ferraro, Mike Vescio, Pat Market, and Randy Graham. (Not able to attend: Liz Page, Winnie Crawford, and Rich Okulski.)

The NWA Student Conference – the first ever – will coincide with the annual Broadcaster's Workshop on Sunday, Oct. 12. The intention is to provide students with a forum to encourage scientific curiosity and intellectual growth while fostering employment preparation techniques. The student poster session will provide an excellent opportunity for discussion and networking with broadcasters following the conclusion of their workshop. Map briefings given by students from several local universities will be daily from 7:30 – 7:50 a.m. preceding sessions attended by professionals from the private sector, the public sector, academia and the media. I want to extend a special note of thanks to Bryan Karrick who organizes the Broadcaster's Workshop each year to coincide with the annual meeting.

The NWA continues to direct time and resources toward growing its student membership. A concentrated effort to promote student opportunities at this year's meeting is one example of this investment. Your Council and Executive Committee recognize that our students are not only the future of the NWA but also our discipline. Elise Johnson joined the Council in 2007 as an ex officio student member to enhance our understanding of student needs and perceptions. She has been instrumental in addressing how the NWA is marketed to students.

The Council is working to improve the NWA web page content for students as well as considering a reduction in student membership fees. It is my desire as NWA President to make the answer to "Why should I join the NWA?" abundantly clear: your career path and success are contingent to some extent upon your membership and participation in a professional society. Our obligation as members of the NWA is to promote excellence in operational meteorology not just among our colleagues but also to our students.

I encourage you to read the accompanying article (page 3) by John Gordon, 2008 Annual Meeting Program Chair and myself which highlights student opportunities at this year's meeting. It promises to be a must see experience. Thanks to our entire membership for supporting the efforts of your Executive Committee and Council. Be assured that we take the responsibility of guiding your organization very seriously. Please contact me with your suggestions or concerns at President@nwas.org. I look forward to hearing from you!

John Scala
President

New M-Square Office Building Opens: Will be Home to UM Climate Change Research Centers

The first new building in M Square, the University of Maryland's Research Park, is now open for business.

A grand opening ceremony for the $25 million, four-story, 120,000-square-foot Class A office building occurred May 14 in space occupied by the building's first tenant, the university's Earth System Science Interdisciplinary Center (ESSIC).

The university is a national leader in climate change research, and the new building at 5825 University Research Court will be home to two Maryland centers that lead the university's research to understand, predict and respond to global warming. The Earth System Science Interdisciplinary Center will be joined in the facility later this year by the Joint Global Change Research Institute (JGCRI).

"We're thrilled to be welcoming the Earth Systems Science Interdisciplinary Center (ESSIC) into this new building," said University of Maryland President C.D. Mote, Jr. in remarks made during the grand opening. "Climate change and sustainability are topics that are on everyone's minds these days, which makes ESSIC's research even more important. The proximity of the Joint Global Change Research Institute and NOAA's new National Center for Weather and Climate Prediction will provide many additional opportunities for teaming up on these global climate challenges."

The National Oceanic and Atmospheric Administration's (NOAA) new building, which is under construction adjacent to 5825 University Research Ct., is expected to open next year. It will house NOAA's Center for Weather and Climate Prediction, which will be the U.S. focal point for generating ocean and atmospheric forecasts, including outlooks for the four seasons and for hurricanes. In anticipation of this move, NOAA and the university agreed in February of this year to collaborate extensively on related research and education.

About ESSIC

A joint center between the University of Maryland departments of atmospheric & oceanic science, geology and geography, and the Earth Sciences Directorate at the NASA/ Goddard Space Flight Center, ESSIC studies how the atmosphere, ocean, land and biosphere components of the Earth interact as a system and how human activities impact this system.

Its major research areas are studies of climate variability and change, atmospheric composition and processes, the global carbon cycle (including terrestrial and marine

Continued page 7

Student Session at 33rd NWA Annual Meeting

The inaugural NWA Student Session is scheduled for Sunday, Oct. 12, the first day of planned talks at the 33rd NWA Annual Meeting. This year's gathering will be on the waterfront in downtown Louisville, Ky.

So, college students, are you planning on attending or still riding the fence? Consider these enticements: 1) the first student meeting will focus on preparing graduates for the highly competitive job market, and 2) the NWA will offer the first ever student poster session scheduled to follow both broadcaster and student presentations to encourage discussion between both groups. This is a great opportunity for meteorology programs and their undergraduates to showcase their work. This year the meeting is particularly focused toward presentations on historical events like the 1896 St. Louis tornado, the 1971 Delta Tornado Outbreak, the 1889 and 1977 Johnstown, Pa., floods, the 1938 New England hurricane (dubbed the Long Island Express), the 1950 East Coast blizzard, the 1998 Salt Lake City Tornado, the 1951 Mid South ice storm, the 1985 Seattle dense fog record, and the 1930s Dust Bowl. The aim of the 33rd Annual Meeting is to go beyond a cursory review of these memorable events and focus on the unique body of knowledge gained with the objective of improving current and future operational forecasts.

The organizing committee guarantees an agenda that will feature lively topics and speakers throughout the week to stimulate and provoke, including Tom Skilling from WGN Chicago, NWS Director Jack Hayes, GR Level 2 creator Mike Gibson, and NWS lake effect snow and BUFKIT expert Tom Niziol the Meteorologist In Charge of the NWS Buffalo Office. We are planning 12 invited talks on memorable events like the 1934 Mount Washington windstorm, the 1995 heat wave in Chicago, the 1935 Labor Day hurricane, the 1974 Super Outbreak, the 1937 Louisville flood, the 1962 Columbus Day windstorm, the 1975 Wreck of the Edmund Fitzgerald, 1992 Hurricane Iniki, the 1952 Sierra snowstorm, the 1985 Delta Flight 191 crash, the 1953 Worcester and Flint tornadoes, the 1976 Big Thompson flood, and the 1978 Ohio Valley blizzard.

The U.S. can claim more than 50 schools that offer undergraduate and graduate degrees in Meteorology, Hydrology, Atmospheric Science, and Broadcast Meteorology. The NWA recognizes the challenges faced by undergraduates as they seek employment in an increasingly competitive job market. The 33rd Annual Meeting is your opportunity to improve your employment success by attending an NWA student job fair on Sunday, Oct. 12, where you can speak to broadcasters at the Student Poster Session to establish networking skills and contacts. Students, you are the future of the NWA and of our discipline. We strongly encourage you to consider attending this meeting. See you in Louisville!

John Gordon, MIC Louisville
John Scala, NWA President

In Memoriam: Leaving Behind A Grand Weather Legacy

Edward N. Lorenz, (1917-2008), an MIT meteorologist who tried to explain why it is so hard to make good weather forecasts and wound up unleashing a scientific revolution called chaos theory, died April 16 of cancer at his home in Cambridge. He was 90.

A professor at MIT, Lorenz was the first to recognize what is now called chaotic behavior in the mathematical modeling of weather systems. In the early 1960s, Lorenz realized that small differences in a dynamic system such as the atmosphere – or a model of the atmosphere – could trigger vast and often unsuspected results.

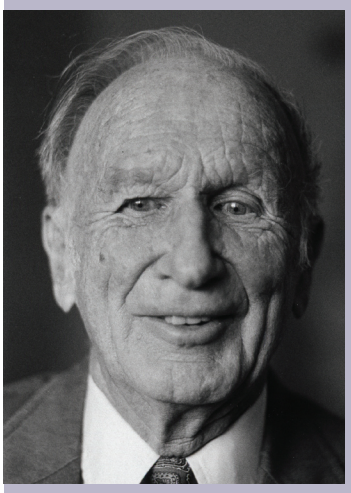
These observations ultimately led him to formulate 'the butterfly effect,' a term that grew out of an academic paper he presented in 1972 entitled: "Predictability: Does the Flap of a Butterfly's Wings in Brazil Set Off a Tornado in Texas?"

Lorenz's early insights marked the beginning of a new field of study that impacted not just the field of mathematics but virtually every branch of science — biological, physical and social. In meteorology, it led to the conclusion that it may be fundamentally impossible to predict weather beyond two or three weeks with a reasonable degree of accuracy.

Some scientists have since asserted that the 20th century will be remembered for three scientific revolutions — relativity, quantum mechanics and chaos.

"By showing that certain deterministic systems have formal predictability limits, Ed put the last nail in the coffin of the Cartesian universe and fomented what some have called the third scientific revolution of the 20th century, following on the heels of relativity and quantum physics," said Kerry Emanuel professor of atmospheric science at MIT. "He was also a perfect gentleman, and through his intelligence, integrity and humility set a very high standard for his and succeeding generations."

Born in 1917 in West Hartford, Conn., Lorenz received an AB in mathematics from Dartmouth College in 1938, an AM in mathematics from Harvard University in 1940, an SM in meteorology from MIT in 1943 and an ScD in meteorology from MIT in 1948. It was while serving as a weather forecaster for the U.S. Army Air Corps in World War II that he decided to do graduate work in meteorology at MIT.



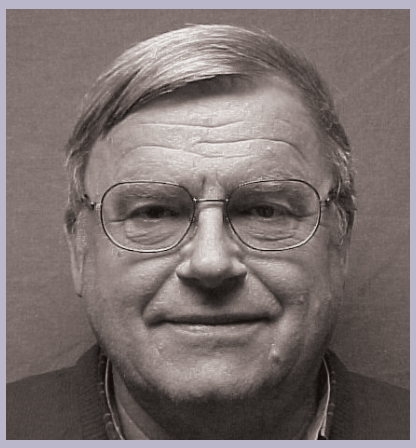
Lorenz was a member of the staff of what was then MIT's Department of Meteorology from 1948 to 1955, when he was appointed to the faculty as an assistant professor. He was promoted to professor in 1962 and was head of the department from 1977 to 1981. He became an emeritus professor in 1987. Lorenz, who was elected to the National Academy of Sciences in 1975, won numerous awards, honors and honorary degrees. In 1983, he and former MIT Professor Henry M. Stommel were jointly awarded the $50,000 Crafoord Prize by the Royal Swedish Academy of Sciences, a prize established to recognize fields not eligible for Nobel Prizes.

In 1991, he was awarded the Kyoto Prize for basic sciences in the field of earth and planetary sciences. Lorenz was cited by the Kyoto Prize committee for establishing "the theoretical basis of weather and climate predictability, as well as the basis for computer-aided atmospheric physics and meteorology." The committee added that Lorenz "made his boldest scientific achievement in discovering 'deterministic chaos,' a principle which has profoundly influenced a wide range of basic sciences and brought about one of the most dramatic changes in mankind's view of nature since Sir Isaac Newton."

During leaves of absence from MIT, he held research or teaching positions at the Lowell Observatory in Flagstaff, Ariz.; the Department of Meteorology at the University of California at Los Angeles; the Det Norske Meteorologiske Insitutt in Oslo, Norway; and the National Center for Atmospheric Research in Boulder, Colo.

An avid hiker and cross-country skier, Lorenz was active up until about two weeks before his death, his family said.

Obituary and Photo courtesy of the MIT News Office



Calvin Naegelin, Lt. Col USAF (Ret.), age 63, died Monday, May 5, 2008, at his residence in Papillion, Neb. He was born Sept. 22, 1944, in Hermann to the late Erwin and Bernice Naegelin.

Naegelin retired from the Air Force after serving for 25 years on active duty. Then he worked for five years in civil service, and taught meteorology at Creighton University in Omaha, Neb., for the University of Nebraska-Omaha and Grace University.

He was a certified consulting meteorologist (#548) with American Meteorological Society and ran Weathervane Consultants. He was also a Fellow of the Royal Meteorological Society of England and a charter member of the National Weather Association. He received his masters degree in Meteorology in 1974, and his ham radio call was WD9APU.

Calvin is survived by his wife, Shirley, of Papillion; a son and daughter-in-law, Conrad Naegelin and Helen of Canton, Michigan; two grandchildren, and many other relatives. Services were held May 9. Memorials may be directed to Wycliffe Bible Translators or the Nebraska Humane Society.

An online guest book is available at www.legacy.com.

Photo courtesy of Grace University.

33rd NWA Annual Meeting: Preregistering Now!

The National Weather Association's 33rd Annual Meeting will be held at the *Galt House Hotel & Suites*, on the waterfront in downtown Louisville, Ky.

October 11-16, 2008

Utilizing Our Past to Improve Our Future

Why Preregister?

The NWA Annual Meeting preregistration fee includes a preprint volume with program and abstracts. For the period of days registered for, it also includes admission to all presentation, workshop and exhibit sessions and coffee/ refreshment breaks.

Fees - Preregistering Available until Oct. 3

Oct. 12, Broadcast Meteorology Workshop & Student Sunday Session: $80 for NWA members and presenters (student and retired members $50); $110 for non-members (student and retired non-members $75). This includes exhibits & Tape Swap.

Oct. 13-16, Annual Meeting sessions/activities and Wednesday Awards Luncheon: $190 for NWA members and presenters (student and retired members $110); $225 for non-members (student and retired non-members $140).

Special one-day rates for Oct. 13-16
$75 for NWA members and presenters (student and retired members $50); $95 for non-members (student and retired non-members $70)

Day rates do not include the Awards Luncheon; luncheon tickets are $30 each.

Hotel

The Galt House is a full-service hotel and convention center in the heart of a revitalized downtown Louisville.

The hotel offers two room options: "Deluxe Rooms" in the West Tower ($97 per night*) and "Suites" in the East Tower ($130 per night*). Up to four people may be accommodated in a room for an additional $10 per night per person.

For phone reservations, call **(800) 843-4258** and request the National Weather Association 2008 group rate. A credit card number will be requested but no charges will be made at the time of the reservation.
\For online reservations, visit *www.galthouse.com*, go to "Reservations" and follow the directions for making group reservations. The ID Number to use for this meeting is **829545**.

*** To obtain the NWA discount rate, reserve your hotel room NO LATER THAN Sept. 10, 2008.**

Contacts for suggestions & to volunteer

Annual Meeting Program Committee Chair John Gordon - annualmeeting@nwas.org

Broadcaster Workshop Program Chair Bryan Karrick - bkarrick@hearst.com

Please monitor our Web site, www.nwas.org, for information on exhibits, special accommodations, registration and the overall meeting program. A preliminary agenda is expected to be online in August as well as published in the Newsletter.

33rd Annual NWA Meeting: Preregistration Form

Mail this form with all fees by Oct. 3, 2008 to: NWA Meeting, 228 West Millbrook Road, Raleigh, NC 27609-4304 USA. Make payment to "NWA" in US funds by a US bank check, money order or government/institution purchase order. Preregistration by credit card is available on the NWA Web site at: www.nwas.org/meetings/nwa08mtg.html

Name (for name tag): _____

Employer, School or other Affiliation (for name tag): _____

City/State (for name tag): _____

Telephone number and e-mail address: _____

Arrival Date at meeting: _____ Departure Date from meeting: _____

Preregistration fees: $ _____

Number of extra Awards Luncheon tickets ($30 each): _____

Number for Golf Outing ($75 each) _____ Total Funds enclosed: $ _____

Please Circle all applicable phrases listed here:

NWA member | NWA local chapter member | Non-member | Student | Retired

Session Chair | Presenter | Program committee member

Local Arrangements committee member

I will bring a tape to the Tape Swap | I'll attend the Tape Swap but not bring a tape

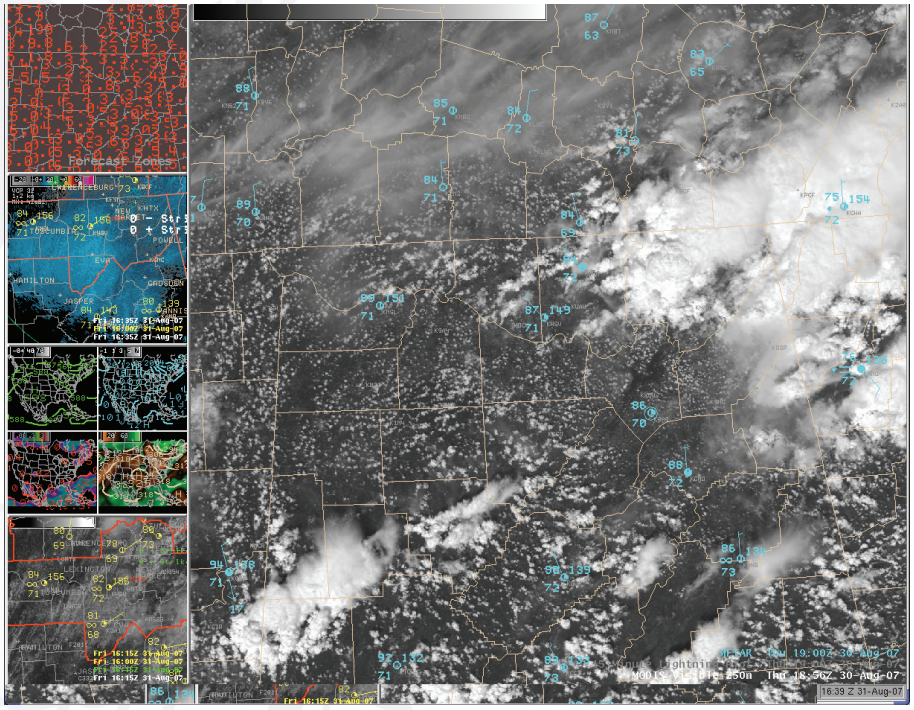
Display and Visualization of Remote Sensing Data

The purpose of this article is to discuss the various visualization software packages available to display various types of satellite data. Because of the large number of software packages available, the list contained within this discussion is not considered exhaustive nor is it recommending one package over another. Depending on the sector of meteorology really dictates on what software package is used.

The National Weather Service uses the Advanced Weather Interactive Processing System (AWIPS) as their primary means for displaying weather data. The figure shows an example of 250 meter visible image from MODIS over the Huntsville NWS County Warning Area along with surface data plotted. The advantage of AWIPS is to plot and display various types of meteorological data (including satellite).

For television meteorologists, several private weather vendors are normally used and the advantage of their systems is to present data, which is visually appealing. These systems also allow for two and three dimensional visualization of meteorological data. Theses systems are developed by Accuweather, Baron Services, Weather Central, and WSI.

In the research community, several different software packages are used depending on the need of the scientist. One of the most widely used is McIDAS, which was developed by the University of Wisconsin-Madison. As we move into the hyperspectral world of satellite meteorology, McIDAS-V was developed using the framework of Integrated Data Viewer (IDV) developed by UNIDATA which is a java based visualization tool which allows for two and three dimensional visualization of meteorological data. In addition, Geographical Information Systems (GIS) are becoming a new tool available for satellite visualization as well.



A 250 m visible satellite image from MODIS as displayed within an AWIPS terminal at the Huntsville National Weather Service with surface data plotted over the imagery.

Wayne MacKenzie and Jeff Underwood
Remote Sensing Committee

Useful Links

Accuweather: www.accuweather.com
Baron Services: www.baronservices.com
Weather Central: www.wxc.com
WSI: www.wsi.com
McIDAS: www.ssec.wisc.edu/mcidas/
IDV: www.unidata.ucar.edu/software/idv/
Lecia Geosystems (formerly ERDAS): www.erdas.com/
ENVI from ITT (formerly RSI): www.ittvis.com/envi/index.asp
ESRI GIS (ArcView Image Analysis):
www.esri.com/software/arcview/extensions/imageanalysis/

New EJOM Papers

Two new papers were recently published in the Electronic Journal of Operational Meteorology (EJOM). The paper titled "NAM-WRF Verification of Subtropical Jet and Turbulence" was written by Douglas Behne of the Aviation Weather Center in Kansas City, Mo. Behne explains why using the NAM-WRF model to calculate the Ellrod Index overestimates the potential for turbulence in association with the subtropical jet.

The second paper is entitled "Use of GIS to Examine Winter Fog Occurrences," and was written by Braden Ward and Paul J. Croft of Kean University at Union, NJ. This paper is based on research that was presented by the authors at the 2007 Annual Meeting in Reno. That presentation is located at www.nwas.org/meetings/nwa2007/.

Matt Bunkers
2008 EJOM Editor

Current EJOM Papers
www.nwas.org/ej/2008/2008.html

Papers from Previous Years
www.nwas.org/ej/index.php

NWA Factoid: Did Ya' Know?

The 1st Annual Meeting in 1976 was at Andrews Air Force Base. Sixty-five members attended.

Professional Development Opportunities

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 or contact Don Farrington (cdfcsf@aol.com) or Kevin Lavin (airweaassn@aol.com).

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. Watch 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. For details, call (406) 652-0851 or visit: www.wrh.noaa.gov/byz/local_news/2008/divide08.php?wfo=byz.

NWA Annual Meeting: October 11 - 16
The 33rd NWA Annual Meeting will be at the Galt House in Louisville, Ky. See page 6 or visit www.nwas.org for details.

Eighth NOAA Satellite Direct Readout Conference: December 8-12
NOAA will host this conference at the Hilton Miami Airport Hotel in Miami, FL. Information regarding the direct readout from meteorological and environmental satellites, and changes to NOAA satellites and programs will be discussed. Learn more at directreadout.noaa.gov/miami08/.

9th Annual National Severe Weather Workshop: March 5 – 7, 2009
This workshop will be held in Norman, OK and planning is now underway. You can contribute your input by using the first-ever National Severe Weather Workshop survey, online a limited time at: https://www.surveymonkey.com/s.aspx?sm=cbcttdbgCU60u9EieQO1_2fQ_3d_3d. Survey results will be used to better design the overall workshop experience for attendees.

2009 Alaska Weather Symposium: March 10 – 12, 2009
This symposium will be held in Fairbanks, AK and more information is available at http://weather.arsc.edu/Events/ASW09

Inland Impacts of Tropical Cyclones Conference: June 10 – 12, 2009
The Metropolitan Atlanta Chapter of the AMS/NWA will host the conference. Details are available at www.ametsoc.org/chapters/atlanta/. A call for abstracts will be issued in September. Submissions on all meteorological aspects of the inland effects of tropical cyclones, including but not necessarily limited to tropical cyclone induced tornadoes, inland flooding, and inland winds will be welcome. Contact Trisha Palmer at Trisha.Palmer@noaa.gov for more information.

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ecosystems/land use/cover change), and the global water cycle.

About JGCRI

The Joint Global Change Research Institute houses an interdisciplinary team dedicated to understanding the problems of global climate change and their potential solutions. Joint Institute staff bring decades of experience and expertise to bear in science, technology, economics, and policy. One of the strengths of the Joint Institute is a network of domestic and international collaborators that encourages the development of global and equitable solutions to the climate change problem.

Initiated in early 2001, JGCRI brings together the intersecting interests of Pacific Northwest National Laboratory and the University of Maryland. Staff at the Joint Institute is focused on developing new opportunities to train university students in the interdisciplinary areas of: integrated assessment modeling, technology strategies to address climate change, natural resource modeling and assessment, vulnerability and adaptation studies, and local and global environmental mitigation measures.

University of Maryland Newsdesk

The full article is at www.newsdesk.umd.edu/culture/print.cfm?articleID=1661

MEMBERSHIP SPECIALS—JOIN NOW!

Join now and have your membership paid in full through the end of 2009!

New members can now take advantage of the Fall/ Back-To-School Membership Special. Members receive the *NWA Newsletter* and the *National Weather Digest* as well as discount registration rates at the Annual Meeting. Members have the **opportunity** to learn or educate those who share their interest in **operational meteorology** and related sciences, utilize their skills and knowledge while volunteering on NWA projects and committees, gain their NWA Broadcaster's Seal of Approval, and **network with seasoned professionals** as well as those who are new to this field. Anyone with an interest operational meteorology or related sciences is welcome to join and we also have corporate memberships.

Fall and Back-To-School Membership Special

Regular Member: **$52.00**

Full-time Student, Full-time Retired, and Full-time Military: **$26.00**

Those residing in Canada or Mexico add an extra delivery cost of $5.00 US, other foreign countries add an extra $8.00 US.

Student members at the 2007 Annual Awards Luncheon.

2007 Annual Meeting attendees visiting with NWA Corporate Member in the vendors area.

Join on-line at www.nwas.org, or contact the NWA Office at:

National Weather Association
228 W Millbrook Rd
Raleigh, NC (USA) 27609-4304
Tel 919-845-1546

Dates 2 Remember

Sept. 4 - 5: 12th High Plains Conference, Hays, Kan.

Sept. 10: Last day for Annual Meeting's hotel group rates (page 5)

Oct. 3: End of preregistration for Annual Meeting

Oct. 11-16: 33rd NWA Annual Meeting, Louisville, Ky.

Dec. 8 - 12: 8th NOAA Satellite Readout Conference, Miami, Fla.

See page 7 or www. nwas.org/events.php for details on these and additional Professional Development

NWA Newsletter (ISSN 0271-1044)

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Editor and Publisher: Steve Harned, Executive Director

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Submit newsletter items directly to the NWA office or to 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 send any address, phone number, email and affiliation changes to assist@nwas.org.***

National Weather Association
228 W. Millbrook Rd.
Raleigh, N.C. 27609-4304

Supporting and promoting excellence in operational meteorology and related activities since 1975.