

PRESIDENT'S MESSAGE

Building on the Past and Present as the NWA Continues into the 21st Century

It is hard for me to believe that another year has passed and that this is my last message to you as President of the National Weather Association.

Reflecting over the year 2000, the highlight had to be the highly successful and fulfilling 25th anniversary celebration. The theme for the year, "Building on the past and present as the NWA continues into the 21st Century" was evident on many occasions during the 25th annual meeting. I believe the NWA has accepted the responsibility to implement this "building" in the next five to ten years. Our goal remains to "embrace a revised vision/strategic plan/goals and objectives that truly reflect an association ready for the many new challenges of the coming years".

Our membership is enthusiastic and dedicated as we strive for that illusive goal of 3000 members. I strongly believe that the NWA replaces quantity with quality. We are fortunate to have "can do" folks with great ideas as exemplified by contributions and participation as: NWA council members, committee members, annual meeting/workshop organizers, NWA Newsletter and *Digest* editors and contributors, and Internet home page managers. Of course there is always a need to provide more Newsletter and *Digest* articles. How fortunate we are that our home page is continuously being updated and serves as a "window" to meteorological resources and the meteorological community in general. I applaud the initiation of the Electronic-Journal. We will continue to adjust our guidelines for publications in an attempt to ease the process. It is of the utmost importance that articles submitted reach the membership in a timely manner.

In closing, I see the NWA leadership as builders — building on the successes and lessons learned from the past that will make us an even more attractive, inclusive and vital association in the years to come.

Inclusive is our invitation for more participation from the university, corporate, and military communities. Our uniqueness comes from our close relationship with operational forecasters, the broadcast community and our opportunities to share and train as in operationally focused hands-on workshops offered at our annual meetings.

Thanks to the NWA Council and all committee chairpersons and committee members for their sacrifices as volunteers that are so essential for keeping such a diversified organization running on all cylinders. I respectfully offer a special thanks to Kevin Lavin, our Executive Director, for being the rock and glue holding the NWA together.

Finally, I have been very proud to serve as your president. It's been one of the most rewarding experiences of my professional career. Thank you for your support as the 25th President, and I now pass the torch into the very capable hands of Les Lemon, NWA President for 2001.

Best wishes to all for a very happy, healthy and prosperous New Year in every endeavor!

- Rod Scofield

ANNOUNCING the Arthur C. Pike Scholarship in Meteorology

Thanks to a generous donation from the estate of the late Arthur C. Pike, your elected NWA Council members developed the first NWA college scholarship program.

Offering: 1 scholarship per year in the amount of \$1000.

Starting Date: For the September-December portion (semester or quarter) of the school year beginning in 2001.

Administration: The scholarship and selection would be administered by the NWA Education Committee. NWA announces the call for applications in January 2001, applications close 15 April and the scholarship designee would be notified by mid-May. In future years, the call for applications would be released the first week of December, applications would close 15 March and the scholarship designee would be notified by 1 May. The scholarship would be awarded once a year.

Eligibility: Undergraduate and/or Graduate students. Undergraduates must be classified at least as a junior for the semester, which the scholarship is awarded. This would allow second semester sophomores to apply for the scholarship. If the student is classified as a senior they must either have one more (Sep. - Dec.) semester to complete after the scholarship is awarded or document that they have been accepted into graduate school.

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LOCAL CHAPTER NEWS

The Southern New England Chapter of the NWA held its last bimonthly meeting of 2000 on December 4th at Bella Costa restaurant in Framingham, MA. The meeting was convened by chapter President Frank Nocera at 7:00 pm with guest speakers from the NWS Forecast Office in Taunton, MA: Walt Drag, Senior Forecaster, and David Vallee, Service Hydrologist.

Frank Nocera opened with an announcement of a new chapter Treasurer, Joseph Dellicarpini, Journeymen forecaster at NWS Taunton, MA. Former chapter Treasurer, Jim Lee, has moved on to another position in Silver Spring, MD. Other announcements included: developing and maintaining a chapter Web site remains a high priority, next meeting will be late January or February with the chapter inviting the Blue Hill Weather Observers, AMS chapters from UMASS at Lowell and the Greater Boston chapter in an effort for the chapter to continue to collaborate with all the local Meteorological community.

After a delicious meal, Walt Drag presented an overview of winter forecasting techniques, recent winter weather events, winter weather outlook via large scale flow regimes — North Atlantic Oscillation (NAO) and Pacific North American teleconnection (PNA), and the MRF MOS guidance biases. Walt started with a review of the winter weather event that affected southern New England on 30 November 2000 ("George's Bank bomb"), mainly focusing on the storm's intensification offshore. As the coastal storm entered George's Bank it intensified rapidly with buoy 44011 indicating a 30 mb drop in a 12-hour period (bombogenesis criteria 1mb/hr). Furthermore, a close inspection of the wind data at buoy 44011 indicated a powerful storm with a 36 knot easterly wind ahead of the surface low, followed by a 62 knot northwest wind gust as it passed east of the buoy! Sensible weather for southern New England from this system was 1 to 3 inches of snow across the higher terrain and rainfall amounts up to 0.70 inches across eastern Long Island.

Walt then proceeded with a review of the winter outlook from the NWS/NCEP/Climate Prediction Center (CPC) in Camp Springs, MD. The outlook called for the persistence of the following features across North America: low pressure over the Maritimes, ridge of high pressure across the southeast U.S., and the tendency for strengthening northwest flow short waves just east of New England (cold air trajectory into Maine and Nova Scotia). Walt emphasized that the CPC outlook must be supplemented with a review of NAO/PNA teleconnection pattern to properly assess large-scale pattern changes. Moreover, these results should be applied to daily operations for insight on predicting large-scale pattern changes within the 3 to 7 day time frame.

His presentation then followed with a review of MRF MOS guidance during the arctic cold outbreak during Thanksgiving week across southern New England. Both MRF MOS (FMR and MEX) guidance forecast temperatures were as much as 8 degrees too warm with the newer guidance (MEX) having the largest errors. This supports the need for the human forecaster, and to reinforce that forecasters add their greatest value to the forecast when there are large deviations from climatology.

David Vallee, Service Hydrologist at NWS Taunton, briefed on his week trip to the Canadian Hurricane Centre-Atlantic Canada in Halifax. David presented to the Canadian forecasters an overview of NWS staffing and operations, significant weather events affecting southern New England, and the latest forecasting techniques from the NWS. The Halifax staff presented briefings on: Trapped Fetch Wave Production and Forecasting, precipitation forecasting and NWP, and a review of past significant weather events.

The Canadian Hurricane Centre-Atlantic Canada is a regional office providing Public forecasts for Halifax and Prince Edward Island, and marine forecasts for near shore and offshore waters over much of the north Atlantic, along with an independent Wave Forecast Desk. The staff works 12-hour shifts with 24-hour operations. Other interesting items included: they still do hand analyses, limited radar capability with Doppler and still at least 1-2 years from being fully operational, forecast models include GEM and high resolution GEM and only available via fax maps, radar training only 1-2 days where NWS radar training encompasses 4 weeks.

- Frank Nocera

For more Local Chapter news and information, check out the NWA Web site at:

<http://www.nwas.org/chapters.html>

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Members receive the monthly NWA Newsletter and quarterly *National Weather Digest* as part of their regular, student or corporate membership privileges. Contact the NWA office or view the Internet Web site for membership information. Newsletter subscriptions are available at \$18.00 per year plus extra shipping costs outside USA. Single copies are \$1.50. Contact the NWA office with address changes.

***ANNOUNCING* the Arthur C. Pike Scholarship in Meteorology**

Award Criteria: The scholarship would be awarded based on:

- a) official college transcripts (academic achievement),
- b) two letters of recommendation (at least one from current or former meteorology professor),
- c) a letter (not longer than one page) from applicant describing their involvement/interest in meteorology.

Logistics: Scholarship money would be transferred following the financial guidelines of the college or university involved in the scholarship. If there weren't any financial guidelines from the school, NWA would make the \$1,000 check payable to both the student and the education institution at the beginning of the September-December semester or quarter.

The NWA Council intends that the scholarship would be long lasting and the funds to come from investment income on the \$23,091.61 distribution from the Arthur C. Pike estate. Changes in the administration and the student requirements could change in future years as the NWA Council determines from monitoring this annual program.

Interested students can obtain a NWA scholarship application by request from the NWA office at 6704 Wolke Court, Montgomery, AL 36116-2134; or NatWeaAsoc@aol.com. The application will also soon be posted on the NWA Web site at: www.nwas.org

Applications for the NWA Arthur C. Pike scholarship to be awarded in 2001 have to be returned to the NWA office by 15 April 2001.

About Arthur C. Pike: a NWA charter member, a research meteorologist for the National Hurricane Center, Coral Gables, and an educator, he died of cancer on 25 November 1988 at home in Florida at the age of 49. His estate was finally distributed in 2000. He received a bachelor's degree and a master's degree, both from the University of Chicago, and a master's degree from Cambridge University, England. He received a doctorate in atmospheric science from the University of Miami in 1971. From 1966-1981, he held a succession of research and forecasting positions at the National Center for Atmospheric Research in Boulder, CO, the Institute of Marine and Atmospheric Science at the University of Miami, the National Hurricane Center, and at stations of the National Environmental Satellite Service in Coral Gables, Florida and Honolulu, Hawaii. During this period he also taught at the University of California at Los Angeles and at the University of Miami.

In 1981, he took his last teaching position at Jackson State University where he was a professor of meteorology. He then resumed his lifelong interest in the study of tropical storms in 1983, when he returned to the National Hurricane Center.

Dr. Pike authored numerous articles for scientific journals. He was a member of the American Meteorological Society, the Royal Meteorological Society, the National Weather Association and Sigma Xi. Donations from his estate went to the American Heart Association, American Cancer Society, AMS and NWA.

TRAINING CORNER

FLASH FLOODING — a big weather-related killer that, according to NWS statistics, claimed 68 lives and caused 301 injuries in 1999. Flash flood events and associated precipitation amounts remain difficult to forecast although extensive research has helped us to come a long way in recent years. One research group, the Cooperative Institute for Precipitation Systems (CIPS), is dedicated to this effort. Comprised of both university and government scientists, CIPS's primary mission is to promote research on improving precipitation forecasting. In the process, it also fosters a mutually beneficial partnership between the operational and research communities. CIPS participants include Saint Louis University, the National Weather Service Offices at Louisville, KY, and St. Louis, MO, and NOAA/NWS/NCEP's Hydrometeorological Prediction Center in Camp Springs, MD.

The CIPS Web site, located at www.eas.slu.edu/CIPS/index.html, contains several excellent presentations concerning isentropic applications and analysis techniques, mesoscale convective systems, and case studies of significant precipitation events. One such case, presented by John Gagan of Saint Louis University at the October 2000 NWA Annual Meeting, details the severe flash flood of May 2000 in Missouri. During this mesoscale convective system (MCS) event, rainfall amounts totaled from 5 to as much as 16 inches in less than 12 hours, with rainfall rates approaching 3 inches per hour. Two people were killed, and nearly 100 homes were destroyed. Initial damage was estimated at 116 million dollars. This presentation looks into the roles of an outflow boundary, training convection, a low-level jet in the event's evolution, and discusses how the Corfidi vector method can be used to help determine the threat of training convection. Precipitation efficiency and its enhancement by high precipitable water values were also examined. The presentation provides some excellent tips on how to use the latest tools and techniques to improve forecasting for flash flood threats such as this event.

This valuable website can be accessed through the NWA Home Page (www.nwas.org) by clicking on "NWA Committees", then "Training Committee", then "Featured Links". - Gail Hartfield, NWA Training Committee Chairperson

MEMBER NEWS

Welcome to new Corporate Members!

North American Weather Consultants, Inc.

9678 South 700 East, Suite 101

Sandy, Utah 84070

Point of Contact: Don Griffith

Tel: (801) 984-6600; Fax: (801) 984-0185

E-mail: nawc@xmission.com

Internet: www.xmission.com/~nawc/nawcz.html

PC Weather Products, Inc.

P.O. Box 72723

Marietta, Georgia 30007-2723

Point of Contact: George J. Sambataro

Tel: (800) 605-2230 or (770) 953-3506; Fax: (770) 952-2540; E-mail: wx@pcwp.com Internet: www.pcwp.com

WeatherRadios.com

1251 N Sherwood Lane

Palatine, Illinois 60067

Point of Contact: Brad Nordling

Tel: (847) 991-0569; Fax: (847) 202-5694

E-mail: brad.nordling@weatherradios.com

Internet: www.weatherradios.com

Weatherwise Magazine

1319 18th Street N.W.

Washington, D.C. 20036-1802

Point of Contact: Doyle Rice, Managing Editor

Tel: (202) 296-6267; Fax: (202) 296-5149

E-mail: ww@heldref.org

Internet: www.weatherwise.org

***WEATHERWISE* offers discount to NWA members —**

Weatherwise magazine now offers a 20 percent discount to NWA members on annual subscriptions. This discount is typically not listed in subscription or renewal notices, and applies only to new subscribers and to future renewals of current subscriptions. Current subscribers will have to wait until their next renewal notice arrives to receive the discount. *Weatherwise* has offered AMS members this same discount for several years. Only one discount (AMS or NWA) will apply for each subscriber. To arrange for this discount, please contact Heldref Publications' Customer Service by phone at 1-800-365-9753 or by e-mail at: subscribe@heldref.org.

DEAN GULEZIAN, a 26-year National Weather Service veteran and a NWA charter member, has been named director of the NWS Eastern Region, a federal office headquartered on Long Island with responsibility for 30 weather offices in 16 states. Dean is a native of Lynnfield, MA. He obtained a BS in Meteorology from Lowell Technological Institute (now UMASS-Lowell) and a MS from The Pennsylvania State University. He was meteorologist-in-charge of the NWS forecast office in Detroit for the past 10 years.

◀ IN MEMORIAM ▶

DAVID A. SANKEY (1946-2000) a charter NWA member and a private pilot for over 30 years, died in a plane accident, the evening of November 9, 2000. According to Civil Air Patrol reports, he left College Park, Maryland about 5:30 pm. He was planning to visit his ailing father in Greenville, South Carolina, a route he had traveled dozens of times. After an extensive nine-day search, volunteers found David's body and the wreckage of his plane. He apparently had crashed into Bull Mountain, a few miles north of Stuart, Virginia. Civil Air Patrol volunteers discovered the burned wreckage of the four-seat Piper Cherokee PA-28 on the side of the mountain. A memorial service was held on December 2, 2000 at the Geneva Presbyterian Church in Potomac, Maryland. The family suggests remembrances for Dave Sankey be sent to HQ Virginia Wing, Civil Air Patrol, 7401 Airfield Drive, Richmond, VA 23237-2250.

Dave had a very interesting career gaining knowledge and experience in many areas. He was a meteorologist and product team leader for the FAA's Weather Sensors and Aviation Weather Research programs. He received a BS in Meteorology from Florida State University in 1968 and later earned an MBA in Program and Financial Management from West Coast University in Los Angeles. He began his operational meteorology career as a weather officer in the US Air Force supporting base and flight operations at George Air Force Base, California. In 1972, after his military commitment, he joined Oceanroutes, Inc., as a meteorologist supervising a small support group in providing data and analyses for the ship routers. In 1974, he became a Computer Systems Analyst for a semiconductor manufacturing company and in 1975, he became an Air Traffic Controller in Palo Alto, California. He supervised all weather observing functions, quality controlled the observations and trained tower operators/observers. He joined Continental Airlines as a Meteorologist in 1979 responsible for flight forecasting over the US, Mexico and Pacific areas. From 1982-1986, Dave became Deputy Director for Meteorological Operations at The Weather Channel, managing the daily operations of the meteorology department providing real-time weather information for national broadcasts. He then joined TRW, Inc., as a meteorological consultant supporting the NWS modernization and restructuring program and saw the chance to use all of his experience in the FAA Aviation Weather Development Program, a major upgrade to the aviation weather information systems. Dave also supported professional associations and led the NWA office into the computer age developing an online computer bulletin board system in the late 1980s. He earned the respect and friendship of many with his great personality and his dedication to improving operational meteorological services. He is survived by his father, his wife, Sheri, two daughters, and three sisters.

MEETING NEWS

26th Annual Northeastern Storm Conference

sponsored by the Lyndon State College chapter of the NWA and AMS will be held **9-11 March 2001** at the Holiday Inn in scenic, downtown Saratoga Springs, New York. The deadline for submitting abstracts has passed.

The deadline for registering for the meeting is 16 February 2001. For further information on registration and accommodations please contact: Dina R. Freedman, LSC-AMS/NWA President, LSC Box 7462, Lyndon State College, Lyndonville, Vermont 05851; e-mail: freedmand@mail.lsc.vsc.edu or browse to the chapter's Internet Web site: appolo.lsc.vsc.edu/ams/ams.html

5th Annual Severe Storms and Doppler Radar Conference

sponsored by The Central Iowa Chapter of the National Weather Association will commence at **5:00 PM on Thursday, 29 March 2001 and adjourn Saturday, 31 March at 10:00 PM.** The University Park Holiday Inn in West Des Moines (515-223-1800) will once again be our host. A Warning Decision-Making Workshop will be one of the highlighted sessions at this year's conference. Meteorologists, hydrologists, climatologists, emergency management personnel, SKYWARN members, amateur radio operators, storm chasers and students are all encouraged to attend. The deadline for abstracts has passed. For more information, check out the Central Iowa NWA Web site: www.iowa-nwa.com Watch for agenda updates as speakers are announced.

23rd Annual National Hurricane Conference will be held 9-13 April 2001

at the Omni Shoreham Hotel in Washington, DC. For more information visit Web site: www.hurricanemeeting.com Teri Besse is the conference coordinator and can be contacted for more information or to discuss exhibit space, advertising or sponsorships at (850) 906-9224 or mail@hurricanemeeting.com Early registration discounts are available until 1 March 2001.

International Conference on Disaster Management will be held 6-10 August 2001

at the Rosen Center Hotel in Orlando, Florida. For more information call (850) 906-9221 or visit Web site: www.disastermeeting.com

2001 NWA ANNUAL MEETING — Out Northwest!

The National Weather Association's 26th Annual Meeting will be held **13-19 October 2001**, at the WestCoast Ridpath Hotel in Spokane, Washington. Discount hotel room rates for attendees will be \$63 for single; \$73 for double/triple/quad. Call 1-800-325-4000 and request National Weather Association's special conference rates. Meeting registration rates will be similar to the 2000 rates. Plan now to attend! *Call for Papers* will be published in the January Newsletter and will be posted on the NWA Web site (www.nwas.org). **Abstracts will be due by 1 June 2001.** John Livingston, the meteorologist-in-

charge of the NWS Forecast Office in Spokane has volunteered to be the Program Chairperson assisted by Ronald Miller and others in that office. Many broadcasters in Spokane have also volunteered to assist. Any other members interested in being on the program/arrangements committee, please contact the NWA Executive Director at (334) 213-0388 or NatWeaAsoc@aol.com.

The NWA Annual Meeting for 2002 will be held at the Radisson Plaza Hotel in Fort Worth, Texas 19-25 October 2002, and the Annual Meeting will be back east in mid-October 2003. Mark your calendars now!

Weather Analysis and Forecasting Issues in the Central United States.

The Weather Analysis and Forecasting Committee of the National Weather Association, the Department of Soil and Atmospheric Sciences at the University of Missouri-Columbia, and the Missouri Climate Center are pleased to announce their first conference on Weather Analysis and Forecasting Issues in the Central United States. **The conference will be held at the University of Missouri-Columbia during 30 November – 2 December 2001** to address all topics relating to operational concerns in the Midwest (emphasis on heavy precipitation forecasting, winter weather phenomena, and interannual variations in Midwestern climate); oral presentations are encouraged, although space will be allotted for poster exhibitions. Contributions from all sectors of the meteorological community (government, private industry, media, academia, etc.) are welcome. Registration and travel information is available at Web site: <http://solberg.snr.missouri.edu/WAFICUS/>

Abstracts are due by 31 July 2001 and should be sent to: Sharon Burnham, University of Missouri-Columbia, Department of Soil and Atmospheric Sciences, 116 Gentry Hall, Columbia, MO 65211 (Please specify oral or poster presentation in your abstract.) Conference organizers are: Drs. Anthony R. Lupo and Patrick S. Market, Assistant Professors of Atmospheric Science at University of Missouri - Columbia.

NOAA WEATHER RADIO GROWS

The NWS NOAA Weather Radio (NWR) program grew by leaps and bounds during the last years of the 20th century. The NWS added 60 transmitters nationwide last year, bringing the total number to 571. Ken Putkovich, the NWR program manager said, "Much of the expansion is due to the tremendous support from partners in the public and private sectors." In the NWS Central Region, where 17 new transmitters were added, Regional Director Dennis McCarthy said, "Congress has supported the NWR program, but we were looking for a way to expand the network, while holding down expenses for taxpayers." Putkovich said cooperators include rural electrical cooperatives, rural telephone companies, state emergency management agencies, county governments, private companies, broadcast media, and in at least one state educational television network (Wisconsin). More NWR information is available on Web site: <http://www.nws.noaa.gov/nwr>

- from NOAA Press Release

JOB CORNER

(Ed: The NWA lists job openings free from equal opportunity employers for the benefit of members. See the Job section on the NWA Web site: www.nwas.org for more complete details on the following jobs, short notice listings and job links.)

DTN/Kavouras has an immediate opening in their Meteorological operation division in Burnsville, MN, a southern suburb of the Minneapolis/St. Paul metropolitan area. Met Ops is a state of the art forecasting team, which uses pioneering, in-house technology. The meteorologists have access to the most advanced equipment and the most complete data sets available, including global satellite imagery, worldwide database, gridded model output, Doppler radar and applications programs for diagnosing the raw data. DTN/Kavouras can offer those with the proper credentials the opportunity to be part of the best forecasting team in the business. A Bachelor's degree in Meteorology or Atmospheric Sciences is the essential first step in applying. Members of the forecast operations must display keen synoptic and forecasting skills. You'll need good common sense to be able to make time critical judgements. As is the case with most forecast positions, shift-work is a must. The work schedule will rotate through all hours of the day, all days of the week and all days of the year. The forecast business never shuts down and we count on you to be there. Computer skills are a necessity. Advancement opportunities exist both within the department and with the whole company. For those who are dedicated to a forecast career, there are various levels of supervisory and training positions. To be considered for this position, please send your detailed resume to: DTN/Kavouras Human Resources, 11400 Rupp Drive, Burnsville, MN 55337-1279; Fax: (952) 882-4500 e-mail: employee.recruiting@dtn.com

Visit our Web sites for more information:
www.kavouras.com, wx.com, dtn.com

AEROMET, INC. has immediate openings for two meteorologists/staff forecasters at its Kwajalein Missile Range (KMR) weather station in the Republic of the Marshall Islands (RMI). The weather station is a state-of-the-art facility located on Kwajalein Island. The station boasts a dual polarized S-band Doppler radar, a lightning location network, mesonet stations, and networked workstations. Forecasters utilize a full suite of numerical guidance and both GMS and polar-orbiting satellite data. Meteorologists/Forecaster positions involve weather watch and warnings, forecasting and observing on around-the-clock shifts. Forecasters work to assume lead roles in missions and special programs. Candidates must have a BS or MS in Meteorology or associated area with equivalent credits in math, physics, and meteorology. At least 2 years forecasting experience is highly desired. Tropical forecasting experience is preferred but not required. Strong briefing and report writing skills are a must, and familiarity with UNIX and SGI computer systems is desired. Both types of positions require U.S. or R.M.I. citizenship. Candidates must be willing to relocate on contract to Kwajalein where living is very small town USA surrounded by central Pacific waters. All normal community services are available and are complimented by excellent boating, diving, fishing, golf and team sports. Employees completing one or more years of continuous service are generally exempt from state and federal tax. Aeromet offers a smoke-free and drug-free environment. More information can

be found concerning this position on Aeromet's Web site at <http://www.aeromet.com>. If interested, please send resumes, transcripts, three professional references and salary requirements to: Aeromet, Inc., P.O. Box 701767, Tulsa OK 74170-1767, or Fax them to (918) 299-8211. Send e-mail inquiries to rward@aeromet.com. EOE m/f/v/d.

NATIONAL SCIENCE BALLOON FACILITY Looking for Travel and Adventure? The **Physical Science Laboratory's National Scientific Balloon Facility (NSBF)** has an opening for an operational meteorologist in Palestine, Texas. NSBF flies balloons as large as 40 million cubic feet with payloads up to 8,000 lbs. to altitudes of 130,000 feet in support of NASA and university programs in astronomy, astrophysics, and atmospheric science. Flight operations are conducted from worldwide locations in the Continental U.S., Alaska, Canada, Europe, Australia, South America, and Antarctica; the meteorologist is part of, and travels with, the launch team. NSBF meteorologists supply detailed specialized forecasts of balloon launch conditions; provide forecasts and meteorological watches during ascent and float phases; and supply parachute descent vectors and weather forecasts during the termination and recovery phase. The successful candidate will also conduct climatological studies for campaign planning and remote site selection as well as write software to enhance the capability of the NSBF meteorological section. Qualifications: Bachelor of Science degree in Meteorology or related field with 3 years of experience in practical applied weather forecasting; strong oral and written communications skills; willingness to work irregular hours as required; willingness to travel 3-4 months per year to remote, worldwide locations for periods of up to eight weeks. Knowledge of UNIX and Windows NT operating systems and GEMPAK and McIDAS programs is a plus. Salary and Benefits: Salary range: \$32,976 - \$49,464 depending on qualifications and experience. PSL/NSBF offers an attractive compensation and benefits package including medical, dental, retirement plan, life insurance, 22 days paid vacation per year, and travel differential. PSL/NSBF cannot reimburse new employees for relocation expenses. To Apply: Send resume to: Joyce Dancer, NSBF Personnel Office, National Scientific Balloon Facility, P.O. Box 319, Palestine, TX 75802-0319. Fax resume to: Joyce Dancer at (903) 723-8067. E-mail resume to: personnel@master.nsbf.nasa.gov in MSWord format. See description of facility, benefits and full job posting at: <http://master.nsbf.nasa.gov>

ABC WEATHER DIRECTOR / METEOROLOGIST in Tamuning, Guam Salary: Negotiable. Date Open: 01-09-2001 Close Date: Till Filled. Summary: Work as a meteorologist and department leader for a team responsible for meteorological monitoring, analysis in support of weather broadcast operations. Involves challenges in meteorological analysis and interpretation, data management, and computing in a two-year old department. This position involves participation in all meteorological aspects of the department. Responsibilities include guiding the technical direction of the project, handling budgeting, personnel decisions, purchasing of equipment, and progress reporting of the department. In addition, contribute to the overall professionalism and quality of the department by preparing timely and accurate forecasts. Required Skills: at least 2-years experience as an operational or research meteorologist; demonstrated supervisory experience leading teams; strong knowledge of tropical climatology; demonstrated experience

with concepts of satellite imagery and interpretation; demonstrated experience analyzing and interpreting meteorological measurements; demonstrated ability to independently design and implement analysis results and, meets U.S. work eligibility law. Desired Skills: Demonstrated experience managing a broadcast meteorological department, preferably a department specializing in applied tropical climatology with measurement and analysis; Basic Internet and Web experience; Statistical analysis experience; Forecasting experience; Computing experience in a UNIX and PC environment; Knowledge of meteorological instrumentation; Knowledge of WSR-88D products and applications. Experience in providing meteorological information to the general public. Certified by American Meteorological Society and National Weather Association. Education: B.S. in Meteorology or a related discipline or equivalent combination of education and relevant experience. Send resume and curriculum vitae to: David Larson, 692 N. Marine Drive, Tamuning, GU 96911; or via e-mail to: dave@abc14guam.com

COMMANDERS' WEATHER CORPORATION, NASHUA

NH is looking for knowledgeable, enthusiastic meteorologists who want to sharpen their skills in a growing company. The successful candidate should have a Bachelor's degree in meteorology or atmospheric science, strong forecasting abilities, and a thorough knowledge of synoptic meteorology. In addition, Commanders' is seeking a candidate with excellent communication skills, both oral and written, along with a knowledge of PCs. Commanders' Weather is located in Nashua, NH and is a world leader in global marine forecasting. We have a strong sailing clientele and are involved with many renowned sailors and races worldwide. With additional growth occurring, Commanders' is looking for an individual who wants to participate and contribute to this growth. Some shift work is required and the person must be available to travel occasionally, both domestically and internationally. Commanders' Weather offers a competitive salary, a health plan, bonuses, and other benefits, including free skiing at a few of New Hampshire's major ski areas. If you are interested in a challenging opportunity to learn and grow in a professional and cordial environment, send a cover letter and resume with strong references to: Commanders' Weather Corporation, 154 Broad Street, Nashua, NH 03062 or Fax to: (603) 882-6661; e-mail: commandersweather@compuserve.com

MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT), LINCOLN LABORATORY

has openings for meteorologists with an interest in the development and use of automated weather feature detection algorithms. The Weather Sensing Group (a team of meteorologists, computer scientists, engineers and aviation weather professionals) operate Integrated Terminal Weather System (ITWS) demonstration systems in New York, Dallas, Memphis, and Orlando. ITWS is an exciting Federal Aviation Administration (FAA) program to produce a fully automated, integrated terminal weather decision support system to improve the safety, efficiency and capacity of terminal area aviation operations. We offer the opportunity to gain experience on a large Unix-based computer network and work with world-class algorithm development teams creating weather products to improve safety and reduce delay at major airports. (See <http://www.ll.mit.edu/AviationWeather> for more information.) Duties of the meteorologists include day-to-day operation of the ITWS test bed, interpretation of real-time

meteorological products, troubleshooting problems that occur with the system, and interacting with the air traffic controllers and planners utilizing the ITWS. Algorithm problems will be identified and isolated and enhancements and/or refinements will be implemented through collaboration with the developers. Off-line data analysis and research projects will be undertaken during times of benign weather. Qualifications and Background: MS in Meteorology or related physical science, or BS with significant relevant experience. The ability to work independently, set priorities and interact at a high level with sponsors and users is required. The candidate needs to be flexible with respect to work hours, as the ITWS demonstration systems are required to support FAA operations whenever there is adverse weather impacting airport operations. Familiarity with UNIX, C or C++ programming, field measurement programs, aviation, FAA ATC operations and Doppler radar data analysis is helpful. Willingness to live at a field site location is required. Equal Opportunity Employer, M/F/D/V. U.S. Citizenship Required. Desired Starting Date: Immediate Openings Available. If interested, Please Contact: Kathy Carusone by e-mail: Carusone@LL.MIT.EDU; Phone (781) 981-5039; or Fax (781) 981-0632.

VALPARAISO UNIVERSITY INDIANA. The Department of Geography and Meteorology at Valparaiso University is expanding its faculty and seeks to fill two tenure-track positions effective August 2001. To best complement existing strengths, expertise is strongly preferred in one or more of the following areas: atmospheric dynamics, thermodynamics, numerical modeling, remote sensing, aviation meteorology, boundary layer and/or air pollution meteorology, tropical meteorology, and climatology. Applicants should possess a Ph.D. in meteorology or atmospheric science and a strong desire and ability to excel in undergraduate teaching, advising and scholarly work in a large, dynamic program. Those with broad backgrounds, interdisciplinary skills and laboratory computer applications training are especially encouraged to apply. We are looking for excellent teachers first and foremost! Additional information concerning the department, its people and facilities can be found at Web site: www.valpo.edu/geomet. Please send a full statement of interests, CV, complete college transcripts, and contact information for three references to: Dr. Bart J. Wolf, Department of Geography and Meteorology, Valparaiso University, Mueller Hall, Valparaiso, IN 46383. Review of applications will begin on 22 January 2001, and continue until the positions are filled. Candidates should be interested in working in a university engaged in issues in Christian higher education in the Lutheran tradition. Women and minorities are encouraged to apply. AA/EOE.

THE NATIONAL WEATHER STATION, INC. is hiring full-time and part-time meteorologists. We are looking for talented, enthusiastic and dedicated professionals with excellent forecasting skills. You should have a degree or the equivalent in meteorology. You should also have experience in website development and also know how to use the various forecasting models and be familiar with radar and satellite imagery. Hours will be flexible but you must be available on a rotating schedule to support our 24 hour per day operation. Experience in radio broadcasting is also a definite plus. We prefer local residents within an hour drive time of Sullivan County in New York and northern New Jersey. Please mail resume to: The National Weather Station, Attn: Dan, PO Box 1063, Lodi, NJ 07644.

ACCU WEATHER, INC., offers career opportunities with the world's leading and most diversified commercial weather service. **You will have exciting opportunities to handle all types of weather forecasting for major business, media and government organizations.** These include on-air broadcasting for radio stations; creative presentation of weather graphics; preparation of television and newspaper forecasts; snow and ice warning services; worldwide forecasting for agriculture; specialized forecasts for the transportation industry, utilities, businesses and resorts; computer applications and many others. You will work with some of the nation's leading forecast meteorologists in our new state-of-the-art Global Forecast Center, interacting with a staff of 350 employees. **Our facility provides our 93 forecast meteorologists with tools and computer technology unavailable elsewhere.** Applicants need to be articulate and productive with outstanding forecasting and communication skills. Through progressive advancement, forecasters can become on-air meteorologists in major radio and television markets, or become involved in computer operations, graphic design, new product development or customer relations. **AccuWeather also has positions available on their computer staff for meteorologists with programming experience.** AccuWeather offers competitive salaries and an extensive benefits package including health insurance, 401K and profit sharing plans, life insurance and disability income. If you are an enthusiastic, hard working forecaster interested in employment in a dynamic growing company, which offers superior opportunity for advancement, send a detailed resume to:

David H. Dombek, Director of Forecaster Hiring, AccuWeather, Inc., 385 Science Park Road, State College PA 16803; FAX: (814) 231-0621; e-mail: resume@accuwx.com.

LITTON PRC in BOULDER, COLORADO is seeking a Principal Engineer for a Full Time, Regular position with a salary range of \$80,000-100,000. The candidate accepted will work as part of a team responsible for the reverse engineering and maintenance of a weather information processing system. Serve as an interface between the developers of original software and PRC integrators for technical information transfer. Musts: Bachelors degree (technical); 10+ years experience with complex system software development on a UNIX platform. ➤

NATIONAL WEATHER ASSOCIATION
6704 WOLKE COURT
MONTGOMERY AL 36116-2134

In-depth C/C++ knowledge and strong communication and interaction skills a must. Experience with meteorological systems highly desirable. Desired: Perl, tcl/tk, FORTRAN, JAVA, gnuMake, gcc and Linux. Interested candidates should forward resumes to Roger Baughan by Fax: (703) 556-2232 or e-mail at: P-Baughan_roger@subcontractor.prc.com and/or r_baughan@yahoo.com.

WORLD WEATHERWATCH is a Toronto based weather forecasting company, that has been providing specialized weather forecasts coast to coast for industry, media and government for the past 20 years. Successful candidates will have a B.Sc. in Meteorology and 1-2 years experience. Some entry level positions are available. Strong verbal and written communication skills are required. The positions require shift rotation covering 24 hours a day, 7 days per week. The ability to work under pressure and meet critical deadlines is important. The Company offers a competitive salary, which includes complete medical and dental coverage. Interested candidates should send their resume along with three references to: World Weatherwatch, Attn: Mory Hirt, 401 Bentley Street, Unit 4, Markham, Ontario, Canada L3R 9T2. E-mail: Mory@worldwx.com or Fax: 905-477-9404.

WEATHERDATA, INCORPORATED If you love weather and enjoy interacting with clients that take your work seriously, this is the opportunity for you. WeatherData, Incorporated, located in the center of "Tornado Alley", is interested in hiring Forecast Assistants. This is an entry-level position utilizing your graphic skills while sharpening your forecasting skills. You will work with experienced meteorologists, attend training seminars and map discussions while learning the requirements of WeatherData's clients. A degree in Meteorology or the equivalent is required. Attention to detail, flexibility, and the ability to focus on customer needs while meeting crucial deadlines are essential. Weekend, night and/or early morning work may be required to support this 24-hour a day, 7-day per week operation. WeatherData offers excellent salaries and benefits including, 401(k), profit sharing and relocation. If you like to be challenged, and enjoy communicating weather information to end-users, don't let this opportunity pass you by. Send cover letter and resume to: WeatherData, Inc., Attn: Sharol Youngers, Manager of Business Administration, 245 N. Waco, Ste. 310, Wichita, KS 67202.