Aware

Aware's purpose is to enhance communications within the National Weather Service and with the natural hazards community

Fall 2002

Climate, Water, Weather

Many Paths, One Way

We, the National Weather Service, are very good at what we do. We make countless daily decisions in the forecast process and in our planning processes. Our continued greatness depends on our ability to meet future challenges. This goal will require us all to work even more closely together to solve problems.

Each of us holds strong beliefs on what we need to do to succeed. Frequently these beliefs and passions collide. Our passions are colored by our position in the organization, Weather Forecast Office, River Forecast Center, National Center, Regional Office or Headquarters Office. Each office views situations differently. No individual organization, team or person is totally responsible for success. For us to succeed, we need to collaboratively deal with important and challenging issues, issues we might not know much about, issues we are uncomfortable with, issues that may require us to move from our comfort zone.

Technological and social change is accelerating. Consider, it took 35 years after the invention of the automobile before one quarter of the U.S. population owned a car. For personal computers, it was 18 years; cell phones, 13 years; and Internet, 7 years. Gordon Moore, cofounder of Intel, said computing performance per unit cost doubles every 18 months. This pace forces us to continually re-evaluate how we do business. This translates into change. We need to deal with change better.

In his best seller *Good to Great*, Jim Collins says, to move to greatness, an organization must confront its brutal facts. Some of the brutal facts we face in the National Weather Service are: numerical forecast models are improving, demands on our time our increasing, budget belt-tightening is coming, customer needs are increasing, customer desires are pulling us in different directions, customers want product consistency, customers want fewer procedural errors, and employee expectations are changing.

Jim Collins adds, to confront brutal facts, organizations need a climate of truth and open dialogue. To do this we must be able to:

- Lead with questions, not answers.
- Engage in dialogue and debate, not coercion.
- Conduct autopsies without blame.
- Build red flag mechanisms to turn information into information that cannot be ignored.

In the past we focused on coordination—coordinated forecasts and policy development. But coordination is not collaboration. Collaboration is working together, in a framework of trust, to accomplish together what we cannot accomplish by ourselves. Now is the time to think and act as one Weather Service. We come from multiple perspectives, multiple pathways. Now we need to move in one way. We are great. We have the potential to be even greater. It's time to do it.

Gregory A. Mandt
Director, Office of Climate, Water, and Weather Services

Inside Aware

Online Package Helps Keep Pilots Up to Date

By Dan Gudgel, WCM, WFO San Joaquin, CA
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During April 2002, the San Joaquin, CA, WFO staff made separate presentations at four venues to the aviation community in Interior Central California.

As part of an ongoing liaison with the FAA Aviation Safety Program, I put together an hour-and-a-half instructional package. The package includes an electronic presentation offering an abridged review of aviation weather theory and NWS aviation weather products. The package also includes handouts on accessing information through electronic means as well as weather terminology.

More than 100 pilots heard the presentation in addition to those taking part in an FAA-sponsored "Wings" Weekend. I maintain close ties with the FAA Flight Standards Safety Program at Fresno, having served with them as an Aviation Safety Counselor since 1977.

Weather Facts

The benefit from NPOESS data to volcanic ash avoidance in commercial aviation is estimated at $10 million per year.

Source: "Benefits of NPOESS for Commercial Ship Routing - Transit Time Savings," Woods Hole Oceanographic Institution, 2000, unpublished work.

Aware

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Aware in PDF—**www.nws.noaa.gov/om/aware.pdf**
AwareNow—**www.nws.noaa.gov/om/awarenow.htm**

WFO Reno Supports Major Aviation Events

By Roger Lamoni, WCM, WFO Reno, NV
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Two large aviation events are held in Reno, NV, each September. The Great Reno Balloon Race and the National Championship Air Races each attract more than 100,000 visitors.

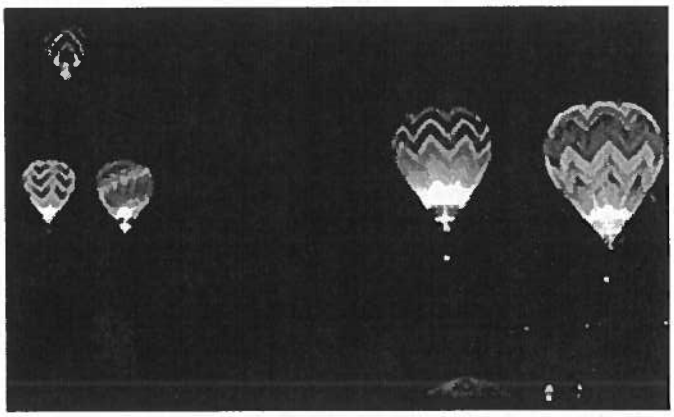

Photo of the Great Balloon Race of 2000 at dawn by NWS Reno staff member Steve Otteson.

At the request of the Federal Aviation Administration (FAA), MIC Jane Hollingsworth assisted in providing daily weather safety briefings to the 150 pilots who take part in the Great Reno Balloon Race. Balloon pilots are particularly concerned with the forecast of low-level winds from the surface to roughly 5,000 feet above ground level. These forecasts are doubly important near Reno due to the proximity of the balloon race to the Reno-Tahoe International Airport. "Good Morning America" featured this year's race in several segments.

WFO Reno forecasters provided detailed weather data to the FAA Reno Automated Flight Service Station. The data was used in daily weather briefings for pilots at the 38th annual National Championship Air Races, held just north of Reno. In addition, WFO Reno staffed a public safety and information booth in conjunction with the FAA. A resurgence in interest in NWR was noted in our booth this year. We attribute this interest to the improved automated voice and the increase in the number of stations serving the Nation.

CSD Partnership Program Continues into 2003

By Judy Koepsell, Physical Scientist, CSD
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The Climate Services Division (CSD) Partnership Program, begun in 2001, will continue into 2003. The program's purpose remains the same—to bring the architects of local climate services partnerships in direct contact with the CSD staff who support these partnerships and with the source of prediction products at the Climate Prediction Center.

The 2-week program is open to anyone in or outside government interested in developing or expanding a climate services partnership. Applicants may come from NWS offices, NOAA labs, regional climate centers, state climatology offices, universities and the private sector. The key qualifications for acceptance in the program are interest and opportunity for an NWS/external partnership for climate services.

In August 2001, the CSD invited its first visitor—Andrea Bair. As the first and, so far, only regional Climate Services Program Manager, Andrea has been actively involved in designing and setting up a climate services program within the Western Region. Since her stint with CSD, Western Region has identified climate services focal points within each of its WFOs. Also, Andrea and her steering committee of six have developed a proposal to implement activities in FY03 and beyond. The steering committee approached this task from a WFO viewpoint for right now; they will design an RFC program in the near future.

Another result of Andrea's August 2001 visit has been a project she's been working on with CSD Scientist Marina Timofeyeva and CPC staffer Dave Unger involving a regional downscaling project for Western Region. They presented their project in a poster session during the 27th Annual Climate Diagnostics and Prediction Workshop in Fairfax, VA, in October.

Who May Participate?

Participants in this program can be anyone who:

- Wants to strengthen an existing climate-related partnership or who wishes to develop a new climate-related partnership
- Has a strong interest in climate prediction and variability
- Has two consecutive weeks available to spend in the Washington, DC, area: 1 week working with CSD personnel and 1 week working with CPC personnel
- Can do a 1-hour presentation for an audience of NWS personnel.

When May I Participate?

The following is the schedule for calendar year 2003. There are two slots per month. Please check the Web site for availability.

January 6-17	July 7-18
February 10-21	August 11-22
March 10-21	September 8-19
April 7-18	October 6-17
May 5-16	November 10-21
June 9-20	December 8-19

Who Pays for the Visit?

CSD covers the cost of travel and per diem for **all** 2003 Partnership Program participants.

How Can I Get More Information?

For more information or to apply, contact Judy Koepsell at (301) 713-1970 x187 or go to the Web site: **http://www.nws.noaa.gov.om/csd/visitors.**

CSD Announces Funding Competition for Regional Climate Services Projects

By Judy Koepsell, Physical Scientist, CSD
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By the end of November, CSD will be funding a program for regional climate services projects. CSD will send out a booklet describing the application process and criteria for appropriate projects to Regional Directors in early December.

Funds will be awarded early in the second quarter of FY03 so work can be started within this fiscal year. Initially this program will be funded at a modest level, but it may expand in the future. Watch your mail for more details coming in December 2002.

Fire Weather

New Web Site Offers Fire Behavior Training

By Elizabeth Page, Training Division
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In response to this summer's active fire season, the Cooperative Program for Operational Meteorology, Education and Training (COMET®) has published a new Web site with fire behavior training that offers access to supporting graphics and animations at **http://meted.ucar.edu/fire/fwx/index.htm**.

Originally developed for operational fire weather forecasters, portions of the COMET Fire Weather CD-ROM module have been converted for the Web for use by a wider community. This site provides an overview of factors that affect the ignition and spread of wildfire. Information is presented with three-dimensional graphics and animations as well as audio descriptions and commentary by a fire behavior expert. A section listing "quick links" to conceptual graphics is also available: **http://meted.ucar.edu/fire/fwx/quick_links.htm**.

Flooding/Hydrology

First Hydrologic Program Manager's Conference: December 3-6

By Mark Strobin, National Training Program Leader
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The first biennial Hydrologic Program Managers (HPMs) Conference, sponsored by the Hydrologic Services Division, will be held in New Orleans, December 3-6, 2002. About 160 NWS Service Hydrologists/Hydrology Focal Points, Hydrologists, and Regional and National Headquarters personnel are expected to attend.

NWS Director Jack Kelly will deliver the keynote address. Other key speakers include Kevin Stewart, Chairman of the National Hydrologic Warning Council, and Jim White, the Emergency Management Coordinator for Harris County, TX.

Numerous other sessions will be led by Headquarters and field personnel such as Office of Climate Water and Weather Services Director Greg Mandt, Director of the Office of Hydrologic Development Gary Carter, and Hydrologic Services Division Chief Glenn Austin.

This conference will be the first time HPMs from so many WFOs and River Forecast Centers (RFCs) will have the opportunity to train and interact as a group as well as with Headquarter personnel. HPMs will take part in conference activities that will enable them to:

- Better understand the national vision to improve hydrologic services
- Understand clearly what the Advanced Hydrologic Prediction Service (AHPS) is and the roles and responsibilities of HPMs for its implementation, including the sociological aspects of AHPS
- Share ideas and best practices across regional boundaries through poster presentations
- Understand the needs of NWS partners and customers through invited presentations
- Articulate and discuss critical operational issues
- Take part in subject breakout sessions such as snow hydrology, drought, river ice and flash flooding
- Receive training in program leadership, team building and customer service from Executive Trainers John Kennedy and Warren Blank.

For further information, contact Tom Donaldson at 301-713-0006 x173, or thomas.donaldson@noaa.gov.

New! 16 Page Color Brochure, "Floods—The Awesome Power"

By Larry Wenzel, National Outreach Coordinator
Hydrologic Services
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"Floods – the Awesome Power" is now available from the National Logistic Supply Center (NLSC) in Kansas City, MO. There are several expanded or new topics since the last brochure:

- Danger of being in a sport utility vehicle during a flood.
- Hazards of inland flooding during tropical cyclones
- Benefits of AHPS.

This brochure was a joint project of NWS, the American Red Cross and the Federal Emergency Management Agency in collaboration with several other agencies. To obtain copies, call NLSC at 816-926-3990. Ask for "Floods – The Awesome Power," NOAA/PA 200253.

To download a copy, go to **http://www.nws.noaa.gov/om/brochures/Floodsbrochure_9_04_low.pdf**.

Hurricanes/Tsunamis

Cuba Allows Hurricane Hunter Reconnaissance Flights

By Max Mayfield, TPC/NHC Director, and Stacy Stewart, WCM/Hurricane Specialist, TPC/NHC
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During the 2002 Atlantic hurricane season, the WC-130 "Hurricane Hunter" pilots flew over Cuba for the first time as part of their mission to gather and provide life-saving observations from hurricanes.

The Air Force Reserve flies the WC-130s in support of the U.S. Hurricane Warning Program and the forecast operations of the World Meteorological Organization's Regional Association-IV. Permission to fly over Cuba resulted from extensive collaboration between the U.S. State Department, the Office of the Secretary of Defense, the U.S. Air Force, NOAA and the Cuban government.

The more efficient flight plans saved valuable time and fuel. In addition, this new flight plan permits the NOAA WP-3 aircraft to perform simultaneous research flights rather than flying operational reconnaissance missions as they have done in the past near Cuba.

New Hurricane Procedure Reflects City Operations Plans

By Jon Rizzo, WCM, WFO Key West, FL
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In August, I met with Key West, FL, City Planner and Emergency Manager Ty Symroski to develop complementary sections to the city's hurricane operations plans. These plans are in addition to the established coordination procedures in place with county emergency management.

Because the WFO is actually in the city of Key West, we agreed to set up a communications testing and local hurricane hazard briefing procedure. In addition, future plans were made to establish notification procedures for hazardous weather specifically affecting the city.

Marine Services

Memorandum of Understanding with Coast Guard Expands Roles

By Richard May, Assistant Marine Program Manager, Marine and Coastal Branch
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NWS has completed a new Memorandum of Understanding (MOU) with the U.S. Coast Guard (USCG). The MOU was signed by both Assistant Administrator for Weather Services Jack Kelly and the USCG Chief of Operations in late August, replacing the earlier and outdated MOU from 1994.

Under the new understanding, the Coast Guard will disseminate NWS marine products to mariners on U.S. waters and forward marine observation to the NWS.

In addition, the new document institutionalizes the USCG-NWS Coordination Liaison Group as the principal vehicle through which such coordination is handled at the national level.

NOAA Weather Radio

NWR Fact Sheets Available On AMBER Alerts and All Hazards

By Chris Alex, OCWWS Dissemination Services Program
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The OCWWS Dissemination Services Team developed two new NOAA Weather Radio (NWR) fact sheets in September: "AMBER Alerts and the National Weather Service" and "All Hazards NOAA Weather Radio."

These fact sheets are online on the NWR Web site at **http://205.156.54.206/nwr/geninfo.htm**. The fact sheets were emailed to NWR receiver and Emergency Alert System equipment manufacturers, NWS regions, the Federal Communications Commission (FCC), FEMA and the National Center for Missing and Exploited Children.

Several manufacturers thanked us for publishing this information and for bringing it to their attention. The new fact sheets have been featured at a range of outreach events

this fall, such as the National Association of Broadcasters Radio Show in Seattle, WA; a Homeland Security Expo in Washington, DC; and an Airline Owners and Pilots Association event.

These two fact sheets are the second and third in a series developed by the Office of Services. The first NWR fact sheet is "National Weather Service and Changes to the Emergency Alert System (EAS)," available on the NWR Web page under "General Information" and "Emergency Alert System."

Please download and print these fact sheets to help us promote these new aspects of NWR.

Several New Dissemination Directives Available Online

By Chris Alex, Herb White, OS Dissemination Services
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This year, NWS overhauled its policy documents, previously known as Weather Service Operations Manuals (WSOM). The replacement documents are known as NWS Policy Directives (NWSPD) and NWS Instructions (NWSI). The NWSPDs are brief statements of high-level direction that guide decisions and actions throughout NWS.

The following dissemination NWSPD and related NWSIs have recently been posted online at **http://www.nws.noaa.gov/directives**:

- NWSPD 10-17, Dissemination
- NWSI 10-1701, Text Product Formats and Codes
- NWSI 10-1702, UGC
- NWSI 10-1704, Complementary Dissemination Services
- NWSI 10-1710, NWR Dissemination
- NWSI 10-1715, NWWS Dissemination

Summaries of the changes in the dissemination NWSPD and related NWSIs are available to the public, other agencies and headquarters staff by emailing Herb White or Chris Alex. NWS field staff can request the summaries from their regional or NCEP dissemination manager. The summaries are NOT available online. Please note the following:

- NWSI 10-1701 and one portion of NWSI 10-1702 do not take effect until February 12, 2003, to allow time for NWS software changes, staff training, customer notification and implementation. All other documents listed above took effect October 1, 2002.
- NWSI 10-1701 represents a comprehensive reference for text product format information gathered from various NWS references. NWS staff and partners requested consistent formats to facilitate automated processing and parsing of products.

Between now and the effective date of February 12, 2003, NWS offices may change product formats to conform to the specifications in NWSI 10-1701. NWS Headquarters staff will issue a national Service Change Notice (SCN) informing partners and customers that NWS offices may change text product formats to conform to consistent format specifications. The SCN will highlight changes that may be significant to them.

Because the change is being made as time permits, staff do not expect there to be an adverse impact on NWS customers. Customers who think they will be negatively impacted by this sliding implementation timeline should contact Herb White or Chris Alex. Field staff who become aware of adverse customer impacts should inform their regional office.

Two related directives also are being worked on:

- NWSI 10-1703, VTEC, will be going through additional review and comment between now and the end of the calendar year. A draft will be available before the end of 2003.
- Other NWSI 10-17xx dissemination directives written by the responsible dissemination systems offices will be issued in the coming weeks.

We thank all NWS partners, field, regional and Headquarters staff for reviewing the NWSPD and NWSI drafts and providing valued comments earlier this year.

If you have any questions or comments on the dissemination directives, please contact Herb or Chris.

Weather Radio Week Offers Public Receiver Help

By Rick Smith, WCM, WFO Norman, OK
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As a joint effort between WFOs in Norman and Tulsa, OK, Amarillo, TX, and Shreveport, LA, the first Weather Radio Awareness Week was held in Oklahoma September 21-27. The week began with a statewide initiative to program weather radios on September 21. NWS personnel joined emergency management staff, storm spotter groups, the American Red Cross, broadcast and print media, and other agencies in a coordinated campaign to help weather radio customers program their receivers correctly. Over 425 people visited the dozen or so locations set up across the state.

WFOs serving Oklahoma issued daily public information statements focusing on different aspects of weather radio. On Wednesday, the topic was weather radio in schools. I traveled to Cordell, OK, and joined city, county and state emergency management officials, the city manager and mayor and school officials in a tornado drill designed to coincide with the weekly weather radio alarm test. Cordell was devastated by an F3 tornado last October. Since then, the city has purchased 100 weather radios, dramatically increased its preparedness activities, culminating in the community being recognized as StormReady this year. Three television stations from Oklahoma City filmed the event and ran stories related to weather radio, the tornado drill and the StormReady program.

WFO Los Angeles Receives USDA/ RUS Grant for Two NWRs

By Tim McClung, WCM, WFO Los Angeles/Oxnard, CA
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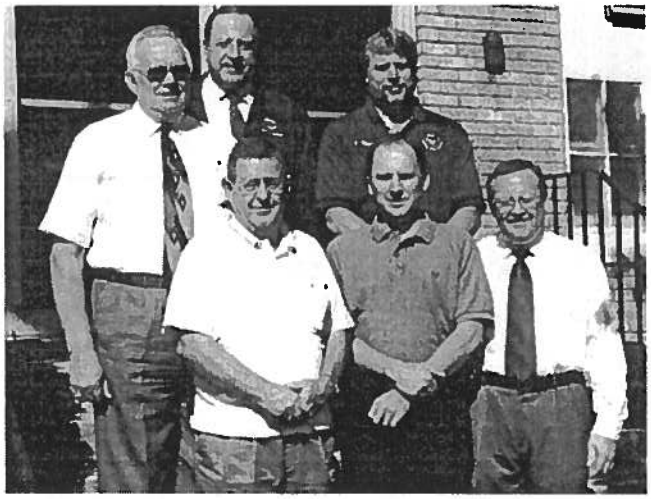
In September, WFO Los Angeles/Oxnard received funding from the Rural Utilities Service (RUS) for two new NWR transmitters for central and southern California.

The first NWR grant was provided through a partnership between NWS and Hearst Castle near San Simeon. California State Park staff at Hearst Castle have been working with WFO staff for more than a year to secure funding for the transmitter. The new NWR will cover sections of San Luis Obispo County as well as the marine interests offshore. Coastal San Luis Obispo County is visited by more than one million tourists annually, yet no radio cable television services are available to local residents or tourists.

NWS Los Angeles/Oxnard also received approval for a second RUS grant for the city of Avalon on Catalina Island. This approval allows Emergency Alert Activations or Civil Emergency Messages to be easily tailored to the island. Currently, activations for any portion of Los Angeles County falsely alert Avalon residents.

More than a million mariners pass each year through the Santa Barbara Channel between Catalina Island and the U.S. mainland. When operational, the Avalon NWR will allow NWS Los Angeles/Oxnard to split the existing NWR broadcast cycle serving this area. This service enhancement will provide two NWR frequencies for the public, one that provides mainly inland forecasts and warnings and one that primarily serves marine interests and rural sections of Catalina Island.



Tennessee gains new NWR transmitter: Front row from left: Hickman County EMA Director Bill Henley; Ken Little, Meriwether Lewis Electric Cooperative ; Hickman County Executive Steve Gregory. Back row: MIC Derrel Martin, WFO Nashville; WCM Jerry Orchanian, WFO Nashville; Terry Cloud, Hickman County EMA.

NWR Expands Coverage In Middle Tennessee

By Jerry Orchanian, WCM, WFO Nashville, TN
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A dedication ceremony was held September 23 for a new NWR transmitter covering Hickman and Lewis counties in mid-Tennessee.

Operating on a frequency of 162.450 MHz, the Centerville transmitter (KWN-53) brings the total number of NWR sites in middle Tennessee to eight.

This new transmitter owes its existence in part to Ken Little of Meriwether Lewis Electric Coop. Little helped obtain USDA grant money for the transmitter. Also key in the process were County Executive Steve Gregory, Hickman County and EMA Director Bill Henley in Centerville, who arranged for the NWS to use the Hickman County tower for the new transmitter.

Outreach/Education

WFO Media Seminar Flooded With Weather Anchors

By Dan Gudgel, WCM, WFO San Joaquin, CA
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On October 16, the 8th annual media seminar conducted by WFO San Joaquin Valley drew eight major affiliate TV stations in the Fresno and Bakersfield markets, including six weather anchors. Also attending were three major news radio stations.

Area media representatives get a first-hand look at WFO technology.

The seminar format serves to update local media about new NWS programs and their impact on interior central California services. It also provides a forum for feedback to the NWS to improve services. The big news items this year included:

- Gridded database
- Recent local severe weather events
- Upcoming winter forecasts
- Hydrologic program changes
- NWR voice and concept changes
- Development of the Spanish Web site.

While it is common to work with the media one-on-one, this seminar concept provides the local media personalities with the opportunity to meet in a relaxed environment to share common points of interest and challenges among themselves and the NWS. Given the excellent attendance, the concept is a success!

Spotters Thanked at Second Annual Lone Star Picnic

By Steve Drillette, WCM, WFO Amarillo, TX
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The second annual Spotter and Cooperative Observer Appreciation Picnic, held August 17 at WFO Amarillo, TX, recognized some 40 spotters and observers, along with several NWS employees. Severe Storm Spotters and Cooperative Observers donate their time and talents in assisting the NWS in their mission of protecting the lives and property of the residents. The picnic is just one small way we wish to show our appreciation to these dedicated volunteers. Guests received tours of the NWS facility, played horseshoes and visited with NWS employees and fellow spotters and observers and, of course, enjoyed their fill of hamburgers, hot dogs, chips, cookies and sodas.

United Supermarkets once again donated all the food, drinks and supplies. I can't express how much we appreciate the support of United Supermarkets. My thanks also goes out to all those NWS employees who helped with the setup, cleanup and work during the event. Lots of planning and coordination is needed to make the picnic a success.

SKYWARN Recognition Day Pays Tribute to Amateur Radio Operators

By David Floyd, WCM, WFO Goodland, KS
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The fourth annual SKYWARN Recognition Day will take place December 7. This is the day that amateur radio operators visit NWS offices to contact other operators around the world. The purpose of the event is to recognize the vital contributions that amateur radio operators make during NWS warning operations. It also strengthens the bond between amateur radio operators or "hams," and NWS. The event is sponsored by the NWS and the American Radio Relay League.

Over the past several decades, ham radio operators have assisted NWS by providing real-time reports of severe weather events and storm evolution. During the May 3, 1999, tornado outbreak in Oklahoma and Kansas, amateur radio operators reported crucial information in real-time regarding the rapid evolution of the storms. These reports resulted in earlier tornado warnings, ultimately saving lives. This type of success story occurs every year all across the country. Amateur radio is well-suited for this type of operation because the radio operators

are trained in effective communication and feedback to the NWS radar operator is instantaneous.

SKYWARN Recognition Day will be held this year from 0000 UTC to 2400 UTC on December 7. MIC Scott Mentzer, WFO Goodland, KS, is the creator and organizer of the event. Each year, he promotes the event and works to involve more NWS offices and ham radio operators. In previous years, radio operators have communicated with hams in countries such as Chile, New Zealand, Croatia, South Africa and Japan. To learn more, go to http://hamradio.noaa.gov.

Utah's Biggest Show-and-Tell Features National Weather Service

By Marilu Trainor, Public Affairs Officer, Western Region, NWS
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WFO staff joined with some of Utah's universities, industries and government agencies to display its technologies at the Utah State Fair in September. "The exhibit has three main focus areas. We are offering the fair's attendees an opportunity to be a 'meteorologist for a day,' be part of the development of a small tornado, or take a quiz about lightning safety," said WCM Dave Toronto. "They can also spend several minutes looking at the video of recent severe weather events, including tornadoes, flash floods and severe thunderstorms. We are using this opportunity to recruit volunteer weather spotters throughout the state."

To show the fair-goers the equipment available in forecast offices, the team set up two Advanced Weather Interactive Processing System (AWIPS) workstations at the booth with data from recent significant weather events in Utah. Visitors had a chance to look at the information from the NOAA satellite, computer models, wind sensors, Doppler and weather radars. Information on recent support to the Olympics was also showcased.

The most popular part of the exhibit was the open-air tornado chamber. NWS borrowed the chamber from the Utah State University and State Climatologist Don Jensen. Once an hour, 30 to 40 people gathered around the chamber, where a meteorologist explained what weather conditions are required to produce a tornado.

Another popular part of the exhibit was the Lightning Safety Quiz. The quiz provides quiz takers with immediate feedback regarding their answer and additional factual information about lightning and lightning safety.

NWS staff taking part in this program included Tom Ainsworth, Chris Brechley, Dan Brown, Linda Cheng, Mike Conger, Mark Jackson, Karen Kahl, Brian McInerney, Jim Nelson, Dave Sanders, Craig Schmidt, Mark Struthwolf, Dave Toronto and Marilu Trainor.

NWR Protects Special Needs, Houseboat Owners

By Jonathan Rizzo, WCM, WFO Key West, FL
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WFO Key West Forecaster Laura Kasper and I attended a local mitigation and strategy workshop led by Monroe County Emergency Management planner Jeff Manning and City of Key West Engineering Services manager Annalise Mannix-Lachner. The greatest challenge facing these agencies is finding resources to facilitate a hurricane evacuation of special needs residents and the significant portion of the Key West population who live aboard boats or do not have automobile transportation.

We learned that the American Red Cross Florida Keys Chapter distributed NWRs to several live-aboard residents so that they would receive information about potential hurricane impacts first-hand.

Tornado Outbreak Gives EMs Inside Look at WFO

By Rick Smith, WCM, WFO Norman, OK
richard.smith@noaa.gov

When severe thunderstorms threatened Oklahoma on September 18, participants and attendees at the Oklahoma Emergency Management Association meeting in Tulsa were obviously concerned. Almost every emergency manager in the state was at the meeting. Outlooks and forecasts from NWS forecast offices in Norman and Tulsa indicated a threat of damaging winds and hail from thunderstorms expected to roll into the state after dark.

By late afternoon, however, it became apparent that storms were developing quickly along the dryline and what had been high interest among the EMs turned into a genuine and immediate need to know what was happening.

Tulsa MIC Steve Piltz, WCM George Mathews and I established a weather briefing room in the hotel to keep EMs up to date on what was happening using two laptop computers and an LCD projector. As storms continued to expand and intensify, a group of EMs joined Steve, George and I on a trip to the Tulsa WFO, where they set up shop in a corner of the severe weather operations area. The EMs got a rare first-hand look at the inner workings of the warning process while coordinating with their local offices on response to the storms. Several EMs stayed at the WFO for nearly 5 hours until the severe weather threat ended late in the evening. This was a unique learning experience for both the NWS personnel and the emergency managers.

Los Angeles WCM Tim McClung, left, and Marine Focal Point Ray Tanabe handle the crowds at the 2002 Long Beach Boat Show.

Marine User's Guide, NWR, Videos Draw Thousands in California

By Tim McClung, WCM, WFO Los Angeles/Oxnard, CA
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For the fourth year, WFO Los Angeles/Oxnard staffed a busy booth at the International Sail and Power Boat Show in Long Beach, CA. The event drew record attendance. Safety issues and new and improved services were the focus of the WFO booth. Marine Focal Point Ray Tanabe and I also offered a live Web connection and pre-edited videos at the NWS booth.

An estimated 3,000 visitors toured the NWS booth where thousands of brochures were given out to local customers. Of particular customer interest were:

- WFO Los Angeles/Oxnard Marine User's Guide
- New MSC-8 charts
- Atlantic and Pacific hurricane tracking charts
- Local and national Web informational handouts
- Specifics on two newly funded NWRs.

WCMs Attend CESA Conference

By Tim McClung, WCM, WFO Los Angeles/Oxnard, CA
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WCMs from California, Nevada, and Arizona staffed a booth at the California Emergency Services Association's (CESA) annual conference in Palm Springs, CA, October 7-10. The booth offered an opportunity to exchange ideas with hundreds of local emergency managers. WFO Eureka WCM John Lovegrove, San Diego WCM Ed Clark and I also conducted a 1-hour breakout session for CESA staff. The presentation covered:

- IFPS/GFE local and National efforts
- NWS California Fire Weather program assumptions set for January 2003
- El Nino
- EWARN
- Climatic extremes in California
- Upcoming February 2003 American Meteorological Society annual conference.

The coalition of Southwest WCMs also conducted a separate, half-day WCM conference to plan upcoming events and expected operational changes during the approaching winter season.

IAEM, NEMA Meet with NWS

By Steve Kuhl, National WCM Manager
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In November, Kristin Cormier Robinson, Director of Government Relations for the National Emergency Management Association (NEMA) and Peter Casals, Deputy Director of the International Association of Emergency Managers (IAEM) visited NWS Headquarters to strengthen partnerships and discuss NWS budget and legislative issues. Both partners invited NWS to provide material related to FY 2003 President's Budget for NOAA.

WCMs maintain close relationships with local emergency managers. We want to establish the same close ties at NWS Headquarters.

NWS experts shared details on the Presidents Budget Update, the Advanced Hydrologic Prediction Service, NOAA Weather Radio - All Hazard Emergency Messages, Cooperative Observer Network Modernization, NWS Drought Program, Fire Weather, and U.S. Weather Research Program.

IAEM and NEMA will inform their members about an emergency managers list server available at **http://www.infolist.nws.noaa.gov/scripts/lyris.pl** that NWS is operating to share information with this constituency. WCMs are urged to pass on information about the emergency manager list server as well. The NWS emergency manager list server offers local, county, and state emergency managers a direct way to obtain information about NWS products and services.

According to Kuhl, Robinson and Casals thought the meeting was extremely productive and gave them a better idea of what NWS does, how programs are inter-related, and how increased and/or decreased funding in one program can impact many other programs.

StormReady/TsunamiReady Reaches 500 Mark

By Steve Kuhl, National WCM Manager and Melody Magnus, Aware Editor
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The NWS StormReady/TsunamiReady program neared the 500 mark in late October, far exceeding the 360 recognition goal for Fiscal Year 2002. In late September, the program also welcomed Nevada as the 43rd state with a StormReady community or county. StormReady is breaking new ground at every turn. During 2002, the criteria necessary for a community to be recognized as TsunamiReady were included in the StormReady program. The program now includes:

- Two universities: Northern Illinois University and Abilene Christian University (see story right)
- A corporate entity: Idaho National Engineering and Environmental Laboratory
- A Native American Tribal Nation: Quinault Indian Nation in Washington State.
- Six TsunamiReady communities: Homer and Seward, AK; Crescent City, CA; Cannon Beach, OR; Quinault Indian Nation and Long Beach, WA.

The program, starting its 4th year, helps communities, counties and other entities with large land tracks ensure they are ready for a weather emergency. The Fiscal Year 2003 goal for the program is to increase the number of StormReady counties or communities by approximately 20 percent. This would add another 100 new locations to the program.

The following sites joined the StormReady program since August 15, when the summerissue of Aware was published. Listed are the state, site and WCM responsible for getting the site on board.

- California: Crescent City, *John Lovegrove*
- Colorado: Douglas County, *Robert Glancy*
- Florida: Manatee County, *Daniel Noah*
- Illinois: Tuscola, *Rod Palmer;* Rock Falls, *James Meyer*
- Kentucky: Martin County, *Phil Hysell*
- Maryland: Allegeny County, *Barbara Watson*
- Missouri: Nevada, Thayer, *Steve Runnels;* Maryville, *Mike Hudson*
- Montana: Dillon, *Rick Dittman*
- North Carolina: Columbus County, *Tom Matheson*
- Nebraska: Cairo, Grand Island, Kearney County, *Steven Kisner* Cheyenne County; Kimball County, *John Griffith*
- Nevada: Clark County, *Ron McQueen*
- Oklahoma: Beaver County, *Steve Drillette;* Elk City, Cordell, Atoka, Seminole, *Rick Smith*
- Oregon: Adrian, Vale, Nyssa, Jordan Valley, Malheur County, Ontario, *John Jannuzzi*
- Pennsylvania: Adams, Dauphin, Sullivany, Lancaster, Snyder, Schuylkill Counties, *David Ondrejik*
- South Carolina: Georgetown, *Tom Matheson* Columbia, Richland County, *Steve Naglic*
- Tennessee: Fayetteville, Lincoln County, *Jerry Orchanian*
- Texas: Abilene Christian University, *Hector Guerrero;* Jasper County, *Roger Erickson* Wichita County, *Rick Smith* Coppell, Highland Village, Navarro County, Rowlett, *Gary Woodall*
- Washington: Waverly, Cheney, Spangle, Fairfield, Spokane County, Liberty Lake, Spokane Valley, Rickford, Latah, Airway Heights, Spokane, Deer Park, *Kenneth Holmes*

StormReady Program Recognizes Two University Participants

By Jim Allsopp, WCM, WFO Chicago, IL
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The Chicago area StormReady advisory board certified Northern Illinois University (NIU) as the first StormReady university in the United States in May. Staff Meteorologist Gilbert Sebenste with Northern Illinois University's Physical Plant and Environmental Health and Safety ensured the university met or exceeded all of the requirements of the StormReady program.

NWS watches and warnings are received from several sources via Web services and NWR at the weather office and at campus security. Other weather data, forecasts and radar images also are received. Every building on campus receives severe weather bulletins through pop-up messages on computers, through the Web and through the 150 programmable NWRs that have been deployed. All buildings have tornado procedures posted. There also are plans for lightning and severe storms at outdoor events. The entire campus security staff has been trained to spot and report severe storms and tornadoes.

From left, WFO Chicago MIC Jim Stefkovich, WCM Jim Allsopp, NIU Staff Meteorologist Gilbert Sebenste, NIU Environmental Health and Safety Director Rob Vest, NIU Department of Public Safety Lt. Deborah Pettit, NIU Associate Director Michele Crase. Photo by George Tarbay.

In September Abilene Christian University in Abilene, TX, joined the list of StormReady entities, offering similar services to its students, staff and visitors.

Tornadoes

NWS Releases Service Assessment On La Plata, MD, Tornado

By John Ogren, MIC, Indianapolis, IN
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In October, NWS released a Service Assessment of the April 28, La Plata, MD, F4 tornado. The tornado was part of a large, severe weather outbreak that began in the mid-Mississippi Valley and spread across portions of the Ohio Valley and Mid-Atlantic states. In Maryland, 3 deaths and 122 injuries were a direct result of the storm. Property damage exceeded $100 million.

An NWS service assessment team reviewed the products and services provided by the Storm Prediction Center and WFOs Baltimore/Washington and Wakefield, VA. Emergency managers, media and local residents were interviewed to obtain feedback on NWS performance. The assessment team learned NWS customers and partners were satisfied with the information received before and during the La Plata tornado.

Critical warnings reached the public despite the failure of one part of the dissemination system. NWS policy of using multiple dissemination methods paid off.

To see the full assessment, go to **http://www.nws.noaa.gov/om/assessments/index.shtml**.

Training

Release of SOO/STRC Workstation Eta Modeling Package

By Robert A. Rozumalski, NWS National SOO Science and Training Resource Coordinator
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In October, the Science Operations Officer, Science and Training Resource Center (SOO/STRC) released version 3.1 of the Workstation (WS) Eta numerical weather prediction (NWP) package.

This software is a full-physics, NWP system, nearly identical to the program run at the National Center for Environmental Prediction (NCEP). Installation, configuration and running of this version has been greatly simplified to encourage use by WFOs and universities.

The software is easy to run on most UNIX and LINUX workstations. Even users with limited modeling experience can have the program running in less than an hour. In addition, the WS Eta code is more efficient, an advantage for real-time forecasting purposes.

This version of the modeling package was developed to promote the local use of numerical weather prediction models in WFOs and to achieve the goals set by the SOO/STRC which are:

- To improve the knowledge and use of NWP models and issues at the local level.
- To advance the forecasting process through an improved understanding of mesoscale processes and the use of nontraditional diagnostic tools.
- To increase participation within the WFOs in developing and executing NWP studies to examine local forecast problems.

Running the SOO/STRC WS Eta locally at the WFOs will serve to provide:

- Numerical weather prediction guidance to WFO and RFC forecasters at temporal and spatial scales not available from operational data sources
- Powerful tool for studying local forecast problems and historically significant weather events
- Alternative to the configuration and physics of operational systems
- Means to develop new diagnostic forecast techniques
- Method of training forecasters on NWP-related issues

What's New for Version 3.1

- Run-time scripts have been completely rewritten to accommodate new data sets, file names and directory structures used on remote data servers
- Scripts are more robust to accommodate user errors and to prevent problems during a model forecast
- Users can execute one-way, non-concurrent nested simulations
- Users can assimilate high resolution Great Lakes high resolution
- Includes lake surface temperatures critical for Lake Effect studies
- Offers improved 30-second Land-Sea mask over North America
- Provides NCEP reanalysis grid support for simulating historical events back to 1949
- Raw model output can be processed into BUFR and GRIB-formatted files. BUFR stations are completely user defined
- Provides additional output fields including cloud base vertical mass and fire potential.
- If a real-time model run should fail, the system send an error message to the user stating the cause of the model failure
- Includes WS Eta Web site with user's guide installation and running instructions, suggested hardware for running the model, compiler resources, configuration guidance, links to WS Eta modeling studies by WFOs and results from benchmark simulations.

The WS Eta cannot overstate benefits since the intellectual proceeds achieved by running a local area model are infinite.

For further information about the SOO/STRC WS Eta package, go to **http://www.comet.ucar.edu/strc/model** or contact me at the email address under the title.

Winter Safety

Olympic Champion Promotes Winter Safety After Near-Fatal Incident

By Chris Jones, WCM, WFO Riverton, WY
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Afton, WY, native Rulon Gardner is best known for his stunning defeat of Russian Alexander Karelin in Greco-Roman wrestling, earning Gardner a gold medal at the 2000 Olympics in Australia; however, his victory against winter elements may have been his most important win.

In February 2002, Gardner went snowmobiling with friends in the rugged mountains surrounding Star Valley, WY. After becoming separated from the group, Gardner tried desperately to work his way back to familiar terrain. Unfortunately, he twice plunged into the icy Salt River on his snowmobile. Cold and disoriented, Gardner found a resting place and remained stranded for 17 hours. Temperatures dropped to around -10°F before Gardner was rescued. His core body temperature was near 88°F and his boot had to be sawed off. The result was severe frostbite on all of his toes.

The all-night ordeal cost Gardner his right middle toe but not his grit. He is back at the Olympic Training Center in Colorado Springs, CO, preparing for the 2004 Olympic Games in Greece. In October, Gardner graciously agreed to record a 30-second public service announcement (PSA) now being distributed across the United States on the dangers of winter weather. Three separate versions of the recording can be heard at **http://www.crh.noaa.gov/riw/rulan_gardner.htm**.

In addition to Gardner, my thanks to WCMs Susan Sanders, Rapid City, SD, and Tom Magnuson, Pueblo, CO, as well as to Kevin Lockhart, Clear Channel Radio, for providing free studio time and facilities for the PSA.

Climate, Water, and Weather Links

WCM/SOO List:	http://www.nws.noaa.gov/om/wcm-soo.pdf
NWS Publications List:	http://www.nws.noaa.gov/om/pubslist.htm
NOAA Weather Radio Information:	http://205.156.54.206/nwr/
Aviation Weather:	http://aviationweather.noaa.gov/
Flooding/Water	http://www.nws.noaa.gov/om/water/index.shtml
Marine Weather	http://www.nws.noaa.gov/om/marine/home.htm
Natural Hazards Statistics	http://www.nws.noaa.gov/om/hazstats.shtml
Past Weather/Climate	http://lwf.ncdc.noaa.gov/oa/ncdc.html
Severe Weather Safety and Awareness	http://www.nws.noaa.gov/om/severeweather/index.shtml
Winter Safety and Awareness	http://www.nws.noaa.gov/om/winter/index.shtml
Current Weather, NWS Home Page	http://weather.gov