Aware

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

Spring/Summer 2001

Climate, Water, Weather

What Is Leadership?

Leadership. What is it? Who has it? What does one need to lead better? How are we practicing leadership at the National Weather Service (NWS)?

Let's face it, leadership is the toughest thing we have to tackle. It is tough for everybody. Look at all the books written about it. Warren Blank addressed the Meteorologists in Charge (MICs) and Hydrologists in Charge (HICs) at our National MIC/HIC Workshop in Portland, OR, in May. He had some insightful comments I would like to share with you.

What is leadership? Eisenhower said it best. "Leadership is getting other people to do what you want them to do because they want to do it." That really says it all. But getting to that point is what generates all of the books.

Warren asked the audience what attributes make a good leader? We all came up with our fair share. Stuff like ability to make decisions with limited information, charisma and encouragement. But as Warren says, you can have all of the traits but still not be a leader. Leaders have followers. If you are out front and no one is behind you then, good traits or not, you are not a leader.

Who is a leader? Leadership is not vested in the position you hold. In fact, Warren made it clear that everyone can be a leader. Leadership occurs as an event triggers a need for someone to fill the breach, state the position, get followers to support it and move ahead. In an office, leadership swings from person to person depending on the situation and how people deal with it. A person with the idea who can get folks to support that idea and act on it is a leader for the moment.

Where is leadership being practiced in the NWS? Too often we look for a parental figure to be our leader, the boss, the supervisor, one of those folks who embody what we feel are the necessary leadership traits.

Warren tried to steer us toward a new model. Every one of our people have the capability to lead. We need to encourage that. When situations arise we need to offer those with a passion for the problem a chance to state a course of action, gather followers, tackle the problem and pass the mantle of leadership to the next person with a passion about another facet of the problem.

We have made it through the modernization. We are trying to run the NWS as a business. We are attempting to become more agile and quick to meet customer needs. We have proved we can do tough things. We have proved we can get better. But if we want to stay the course, we need to cultivate the leadership inherent in each one of us.

This is our biggest challenge. This is our biggest opportunity. Let's all develop passions for what is important to us. Let's all recognize passions of others. Let's all be prepared to be leaders as events match our passions. Let's all be prepared to follow others as the situation dictates.

What is leadership? It is us!

Gregory A Mandt

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

Inside

Water

New Hydrology Product: Daily River and Lake Summary

On May 30, WFOs began issuing a Daily River and Lake Summary. As requested by many customers, this product is a standardized report of daily river observations and lake levels, 24-hour changes, and river forecast information. This hydrologic information is used for emergency response planning, recreational use, the navigation and energy industry, the media and water management operations. Much of the river level information comes from the U.S. Geological Survey stream gaging stations.

Below are sample products from WFO Philadelphia, PA, and WFO Lubbock, TX.

```
FGUS51 KPHI 081336
RVDPHL
NJZ001>005-007>010-012-015-PAZ055-061>062-068>071-
081900-
DAILY RIVER AND LAKE SUMMARY
NATIONAL WEATHER SERVICE MT HOLLY, NEW JERSEY
935 AM EDT FRI JUN 08 2001

.B PHL 0608 DC01060809 DH12/HG/DRH+24/HGIFF/DRH+48/
HGIFF

: STATION              FLOOD  7AM     24-HR      7AM
: ID  NAME             STAGE  STAGE   CHANGE FORECASTS
:                                             SAT   SUN
:
:DELAWARE RIVER
BVDN4 :BELVIDERE       22.0:  4.99/:  -0.27:   4.7 / M   /
TREN4 :TRENTON         20.0:  9.47/:  -0.27:   9.3 /  9.1 /

:LEHIGH RIVER
WNTP1 :WALNUTPORT       8.0:  2.48/:  -0.17:   2.4 / M   /
BETP1 :BETHLEHEM       16.0:  1.93/:  -0.19:   1.8 / M   /

:SCHUYLKILL RIVER
PADP1 :PHILADELPHIA    11.0:  6.12/:  -0.02:   6.1 /  6.1 /

:PASSAIC RIVER
LTFN4 :LITTLE FALLS     7.0:  3.26/:  -0.28:   3.1 / M   /

:RARITAN RIVER
BDKN4 :BOUND BROOK     28.0:  17.60/:  -0.06:  17.3 / M   /
.END

THESE FORECASTS ASSUME A CONTINUATION OF PRESENT
RESERVOIR RELEASES. DURING PERIODS OF LOW FLOW THESE
FORECASTS DO NOT ACCOUNT FOR FLUCTUATIONS DUE TO
WATER SUPPLY DIVERSIONS. LITTLE CHANGE IN STAGE EX-
PECTED NEXT 24 HOURS.

DURING PERIODS OF HIGH WATER OR FLOODING CREST FORE-
CASTS AND UPDATES MAY BE FOUND IN RIVER FLOOD WARN-
INGS /PHLFLWPHI - WGUS41 KPHI/ OR RIVER FLOOD
STATEMENTS /PHLFLSPHI - WGUS81 KPHI/.

$$

FGUS54 KLUB 081306
RVDLBB
TXC045-075-169-263-091300-
DAILY RIVER AND LAKE SUMMARY
NATIONAL WEATHER SERVICE LUBBOCK TX
805 AM CDT FRI JUN 08 2001

.B LUB 0608 DC0106080805 DH12/HP/
:
:RESERVOIR/LAKE SITES
:                                        7AM
: STATION                      NORMAL    POOL     24-HR
: ID  NAME                     POOL      ELEV.    CHANGE

MKZT2 :MCKENZIE LAKE           3100:  3031.69/:  -0.03:
CWRT2 :WHITE RIVER LAKE        2370:  2354.38/:  -0.02:
LHPT2 :LAKE ALAN HENRY         2220:  2206.35/:  -0.07:
:
.END
```

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Weather

Marine Services

NWS Expands Marine Professional Development Series

This spring, the marine Professional Development Series (PDS) producers met to expand and outline Professional Competency Units (PCU). The marine PDS producers are mostly WFO, regional and national marine program leaders. The executive producer is Tom Ainsworth, Western Region Marine Program Leader. The marine PCUs are:

1.0 Understanding the NWS Marine Weather Services Program
2.0 Understanding Customer Requirements For and Use of Marine Products
3.0 Utilizing and Integrating Marine Observations to Evaluate the Current State of the Marine Environment
4.0 Develop Understanding of Winds in the Marine Environment
5.0 Apply Understanding of Winds in the Marine Environment
6.0 Understand Local Marine Climatology and Terrain Influences
7.0 Apply Local Marine Climatology and Terrain Influences
8.0 Waves and Wave Behavior
9.0 Understanding the Significant Weather Elements That Affect Marine Operations
10.0 Making Graphical Marine Weather Analyses and Forecast Products
11.0 Understanding the Processes of Coastal and Lakeshore Flooding
12.0 Assessing Impacts of Marine Ice on Ships and Ship Operations

Most of PCUs will be offered as Web-based training. Each course should take no more than an hour to complete. The producers plan to complete the marine PDS in 2002. Current details on each marine PCU are posted at **www.nwstc.noaa.gov/d.ntp/meteor/marpds.html**.

Richard May, Meteorologist, Marine Services
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Water Level Data in SHEF

The National Ocean Service (NOS) astronomical or predicted water level data is now available on AWIPS in the Standard Hydrometeorological Exchange Format (SHEF). The observed water level and meteorological data for these stations has been available on AWIPS since last year. The SHEF encoded, predicted and actual water level data are stored under the following product identifiers:

AWIPS ID	WMO HEADING	REGION
TIDNT	SOUS61 KWBC	Atlantic Ocean
TIDGX	SOUS62 KWBC	Gulf of Mexico, Puerto Rico/VI
TIDPZ	SOUS63 KWBC	Pacific Ocean
TIDAK	SOUS64 KWBC	Alaska
TIDHW	SOUS65 KWBC	Hawaii

These data come from about 190 NOS operated water level gages along the U.S. coasts, harbors, Great Lakes and U.S. territories and possessions. The gages compare water levels with astronomical tide heights. Astronomical tide predictions are not computed for the Great Lakes.

Richard May, Meteorologist, Marine Services
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Weather Guide For Alaskan Mariners

In Alaska, NWS marine forecasts are one of the most widely used products. To provide mariners with the most up-to-date information, Met Intern Ed Plumb and I developed the "Mariner's Weather Guide—Gulf of Alaska Coastal Waters." The guide includes contact information for six NWS offices, 15 NWR transmitters, voice weather broadcasts, the Voluntary Operations Ship program, Dial-A-Buoy, Web, wind station and buoy locations, weather-related safe boating tips and explanations of marine forecast content.

The brochure has been widely distributed through numerous sources. We are working on a matching brochure for the Aleutians, Bering Sea and Arctic Coastal Waters.

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Aviation Services

Web Site Offers Free Aviation Training Slide Shows in PowerPoint

Need some ready-to-use training slide shows on aviation topics? Feel free to download and modify the following PowerPoint files (ppt) from the Western Region site for your local use. These presentations are primarily geared toward outreach training of pilots, briefers and controllers.

- **Pilot_Know.ppt:** Discusses a survey about pilot weather training and accidents. Can be shortened to make it generic. Mainly for pilots.
- **LLWS1_3.ppt:** Discusses a survey taken by pilots and meteorologists and their understanding of the terms describing low-level wind shear. For pilots and meteorologists.
- **LLWS2_3.ppt:** Discusses low-level wind shear and how/when it should be included in the TAF. Mainly for operational meteorologists.
- **Pretest for LLWS presentations:** Use before the other LLWS presentations to gauge knowledge and help drive home info. Right-click to save this one.
- **Icg_1.ppt:** About aviation icing. For pilots.
- **Metar.ppt:** About METAR code. For pilots.
- **Sky_Cover.ppt:** About observations, both human and machine, with examples of what the sky looks like vs. the OBS. For anyone.
- **Questions.ppt:** List of questions (and answers) pilots should know the answer to, some taken from the pilot's exam book. For pilots.
- **Wx Rambles.ppt:** Collection of topics with the main theme basic weather for pilots. For anyone.
- **Presents-2.ppt:** Ideas on how to make and give an effective presentation. For anyone.
- **Convection1_1.ppt:** Summary of basic convection with great graphics. For pilots.

The presentations can be found at: **ww2.wrh.noaa.gov/public/aviation/aviation_1.htm**.

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Fire & Public Weather

NWS to Implement New Wind Chill Temperature Index this Winter

NWS will release a new Wind Chill Temperature (WCT) index for the 2001/2002 winter season. The change is an upgrade from the 1945 Siple and Passel Index used by NWS and the Meteorological Services of Canada (MSC).

NWS and MSC have worked on the update for more than a year. The index was developed by a group consisting of seven Federal agencies, Environment Canada, the academic community (Indiana University-Purdue University, University of Delaware and University of Missouri), and the International Society of Biometeorology to evaluate the existing wind chill formula and develop improvements. The group, called the Joint Action Group for temperature Indices (JAG/TI), is chaired by the NWS. The goal of JAG/TI is to internationally upgrade and standardize the index for temperature extremes, e.g., Wind Chill Index.

After two meetings, JAG/TI agreed on a new wind chill formula, discussed a process for scientific verification of the new formula, and developed implementation plans. The target date to complete index development is August 2001.

The JAG/TI formula will make use of advances in science, technology and computer modeling to provide a more accurate, understandable and useful formula for calculating the dangers from winter winds and freezing temperatures. The new index will include results from clinical trials to verify the accuracy of the new formula.

A standardized index will help ensure public safety. The group hopes to implement the new wind chill formula in Canada and the United States simultaneously. Specifically, the new WCT index will:

- Calculate wind speed at 5 feet, the average height of the human face instead of 33 feet, anemometer height
- Use a human face model
- Incorporate modern heat transfer theory, heat loss from the body on cold and breezy/windy days
- Reduce the calm wind threshold to 3 mph
- Use a consistent standard for skin tissue resistance
- Assume the worst case scenario for solar radiation (clear night sky).

The new formula will be incorporated into the AWIPS software around November 2001. In 2002, WCT will adjust for solar radiation in conditions such as daytime clear and cloudy, and nighttime cloudy.

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New Zone Forecast Product Weather Service Operations Manual

The NWS forecast offices will implement a new Weather Service Operations Manual (WSOM) Chapter C-11, Zone Forecast Product, September 5. This new chapter set forth policy for an improved 7-day zone forecast product (ZFP) in a new format.

Some of the most significant improvements to the ZFP will be as follows:

- The day-three forecast will be broken into two 12-hour segments
- Wind and snowfall accumulation will be extended to 36 hours
- Use of mid-POPs (40-60 percent) in the first 12 hours of the forecast for non-convective precipitation will be discouraged
- Cisibility restrictions (e.g., fog, blowing snow, blowing dust, etc.) will be included when forecast to be less than or equal to 1/4 mile; and e) the 4-to-7 day forecast section will be broken into 24-hour segments, valid midnight to midnight (local time).

The 7-day ZFP will continue to be routinely issued at least twice daily. You can download the new WSOM Chapter C-11 at **wsom.nws.noaa.gov/**. Go to Part C to find the new section.

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Integrated Operations

Interactive Forecast Preparation System Rapid Prototype Project

A new AWIPS software application, the Interactive Forecast Preparation System (IFPS), is being deployed at NWS offices throughout the Nation, as a 2-year training effort proceeds. IFPS is an application jointly developed by NOAA's Meteorological Development Laboratory (MDL) and the Forecast Systems Laboratory (FSL). The program is designed to help NWS forecasters prepare products in text, tabular, graphical image and gridded formats.

The IFPS Rapid Prototype Project (RPP) offers 17 NWS sites an advanced version of the GFESuite component of IFPS. As part of the test, these office will take part in three primary activities:

- Recommending software enhancements and modifications to the GFESuite software components of IFPS
- Locally prototyping modernized products
- Defining the IFPS forecast methodology.

The GFESuite software provides algorithms for initialization of gridded sensible weather elements, a Graphical Forecast Editor, and tools for graphical product generation. For additional information on IFPS and the RPP, go to **www.nws.noaa.gov/om/ifps/ifps.htm**.

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Last GOES M Launched July 22; NESDIS Faces Dilemma

The last of the series of the GOES-I/M satellites went off on schedule July 22. GOES-M is a little different than the others of the series. For one thing there is no 12.0 m channel, but it does have a 13.3 m channel. The new channel better defines the height of the clouds, producing better cloud drift winds in the models. Another change is that the water vapor imagery is displayed at 4 k resolution. The 13.3 m channel will be at 8 km resolution. GOES-M will also have a new sensor on board, an X-ray imager. The purpose of the imager is to monitor the activity on the sun thus improving space weather support.

Now that GOES-M has launched, there are two spacecraft in storage on orbit. This causes a dilemma: Which one to put in operation first? NESDIS is working on a game plan.

GOES-8 does not have enough fuel to last until December 2002 when it must perform its critical North-South station-keeping maneuver. If it does not fail before then, it will have to be replaced.

GOES-8 was launched in 1994 and as the first of the series was only expected to last 3 years. The design life is 5 years. GOES-8 just passed its 7th year of operation and has been a very reliable spacecraft. On the other hand, GOES-9 gave indications of failing early and was replaced with GOES-10, which is flying upside down. GOES-10 was launched 4 years ago and began operations 3 years ago.

The first of the next series of satellites, GOES-N/Q, is scheduled for launch in 2003. It will have the same imager and sounder as GOES-M. There will be no significant change in the GOES imager until approximately 2008, when GOES-R is launched. The GOES-R imager will have 8-16 channels. The sounder will be an interferometer with 1,500 channels. The resolution of the imagery will be 0.5 km for the main visible channel and 2 km for all other channels.

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Performance, Awareness

Search for a New NOAA Weather Radio Voice

NWS is in the process of replacing the computer-synthesized voice currently used on NOAA Weather Radio (NWR) across the country.

A Request for Proposals was published in the spring of 2001, with bids due in mid-April, for sophisticated Text to Speech software. The NWS evaluated the proposals received on the basis of voice quality, speed of system, integration of voice with existing console system, and cost. As this issue went to press, a contract was expected to be awarded shortly. Plans are for a prototype available by Christmas 2001 and national implementation of the new voice in early 2002. More information on the background and status of the NWR Voice Improvement Processor Project can be found on the Web at: **www.nws.noaa.gov/nwr/VIPstatus.htm**.

NWS is conducting a three-phase evaluation of the voice quality.

First, in March staff posted potential NWR voice samples on the Web at **www.nws.noaa.gov/nwr/voicesamples.htm**. The public was invited to comment on the voice samples between mid-March and June 30. The Web site received tremendous coverage from the media, resulting in more than 19,000 comments. Feedback was received from a broad spectrum of users including broadcasters, emergency managers, citizens, and NWS and NOAA personnel.

Second, representatives from three national groups representing emergency managers and the Emergency Alert System broadcasters evaluated voice quality of potential vendor's "voices" in June 2001.

Third, with help from local WCMs, focus groups were convened in late July and early August in each CONUS region to evaluate voice quality and give feedback on the NWR program and broadcast content.

The comments from the broadcasters, emergency managers, and the Web site have been summarized, and the results will be posted to the "voice samples" page as soon as the contract award is announced.

Chris Alex, Dissemination Services Meteorologist
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IAEM 2001 Annual Conference to Focus on Interfacing with Partners

When the going gets tough, the tough lighten up! That's the theme of Terry Braverman's presentation at the Monday general session of the IAEM 2001 Annual Conference, set for Nov. 3-6 in Riverside, CA. A stand-up comedian turned motivational speaker, Terry Braverman will demonstrate how to access levity in times of adversity. IAEM 2001 will also feature:

- Top representatives from the NWS with the Disaster du Jour
- Stephen Gregory, London Metro Police inspector, on recovery teams working in hazardous environments
- Larry Larson, Association of State Floodplain Managers director, on improving national flood policy
- Ari Rabinovitch, secretary general of the International Association of Local Authorities Confronting Disasters and Emergencies, on multi-disciplinary collaboration and risk management action plans.

Concurrent session tracks include business partners, incident management, mitigation, recovery and allied professionals.

Topics to be discussed include Web-based mutual aid management tools, GIS systems, building effective public-private partnerships, organizing corporate emergency operations for crisis support, preparing for terrorist attacks, and lessons learned from recent disasters.

For the latest information or to register, visit **www.iaem.com**.

Dawn M. Shiley
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Master of Disasters Program Wins Clarion Award

The "Masters of Disaster" curriculum was selected for a 2001 Clarion Award in the category of "Special Print Communications." The Clarion Awards are a renowned competition recognizing the best works from all communications

fields. Entries are judged against competitors of similar size and budget to ensure fair competition.

This is the third national recognition that "Masters of Disaster" has won. The program previously won two "Benny" awards for excellence in print communications, and the "Teddy" for excellence in video production.

For more information about the Clarion Awards, go to **www.womcom.org/clarion/index.html**.

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New Hurricane Awareness Web Site Now Available in Spanish

Hurricane season is here and to keep you up-to-date, the National Hurricane Center (NHC) has a new Web page. The Hurricane Awareness Week Web page will be available in Spanish by early June. The site contains detailed information on how hurricanes form, how they are tracked and forecast, what kind of damage they can produce and what actions the public and other users can take to mitigate or reduce the effects of hurricanes on lives and property. The site was prepared by the NHC and the Florida State Division of Emergency Management: **207.156.43.72/floridadisaster/hurricane_awareness/index.htm**.

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NHC Takes Hurricane Tours; Hurricane Awareness Week Web Site

The NHC took part in the Caribbean Hurricane Awareness Tour in April by traveling to several locations in Mexico and also to Puerto Rico.

The tour party from the NHC included the NHC Director Max Mayfield, Hurricane Specialist Dr. Lixion Avila, and NOAA Public Affairs Officer Frank Lepore. Also attending were representatives from the U.S. Southern Command based in Miami, FL. The aircraft used for transportation and the tour was the U.S. Air Force Reserve WC-130 "hurricane hunter."

The NHC also took part in the U.S. East Coast Hurricane Awareness Tour in May by traveling to five locations along or near the East Coast--Portsmouth/Pease AFB, NH; Dover AFB, DE; Washington, D.C.; Florence, SC; Miami Metro Area/Opa Locka Airport, FL. The tour party from the NHC included Mayfield and me. The aircraft used for transportation and the tour was the NOAA/AOM WP-3 hurricane research aircraft.

The first Presidentially Declared Hurricane Awareness Week, May 21-25, began this spring with each day dedicated to one of five separate hurricane hazards. This information is posted at **www.nhc.noaa.gov/HAW/index.htm**.

Stacy Stewart, Hurricane Specialist, WCM
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President Bush Signs Hurricane Proclamation

President Bush signed a proclamation designating May 20-25 as National Hurricane Awareness Week. This is a first-ever presidential proclamation supporting NWS efforts to provide early and accurate warnings to save lives and property during the 2001 hurricane season.

The idea of an awareness week originated in 1995 with Wilmington, NC, WCM Tom Matheson. Over the last several years NWS has partnered with the Federal Emergency Management Agency (FEMA) to get a proclamation signed. Through the efforts of many, we were successful this year.

Scott Kiser, Tropical Cyclone Program Manager
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NWS Featured in Satellite Conference

NWS took part in the XIV-Satellites and Education Conference at West Chester University, PA. NCEP Director Dr. Louis Uccellini gave a 1-hour presentation entitled, "East Coast Winter Storms." Bob Wanton, WFO Philadelphia, co-authored a presentation entitled, "Educational Initiatives of the American Meteorological Society." I gave a presentation entitled, "Real-Time Weather Data and Lesson Plans via the Internet."

The conference is sponsored by NOAA, NASA, Lockheed Martin, Raytheon, the Boeing Company, Analytical Graphics, Inc., and the Pennsylvania Space Grant Consortium. The first day of the conference, which focused on the Home School sector, drew about 300 teachers and students.

Ron Gird, NWS Outreach Manager
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NOAA's Bring A Child To Work Day

On April 26, 500 students visited the NOAA Silver Spring complex and took part in Take A Child to Work Day. NOAA Acting Administrator Scott Gudes and Topper Shutt, WUSA-9 chief meteorologist, were the special guest speakers. Some 73 students signed up for the NWS Program, "It's Raining Cats and Dogs." Thirty NWS volunteers provided snacks for the students, taught six hands-on sessions, staffed the NWS exhibit and took photographs of NWS activities.

Handout material was provided by the NWS Cooperative Observing Program, The Weather Channel and Automated Weather Source. The program finished with ice cream for all participants scooped by NOAA Senior Staff. A NOAA Web page highlighting the event was developed by Mike Gerber, Office of Services. The NWS page, developed by Melody Magnus, features images of the students in the many activities: **www.education.noaa.gov/kids2001/index.htm**.

Ron Gird, NWS Outreach Manager
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Ocean Temperatures Linked to Long-Term Flood/Drought Cycles

In the coming decades, droughts may be less frequent in Florida according to a study by scientists from Atlantic Oceanic and Meteorological Laboratories' (AOML) Physical Oceanography Division and the South Florida Water Management District (SFWMD). Scientists with these organizations examined North Atlantic Ocean sea surface temperature shifts between warm and cool phases lasting 20-40 years each. The results, published in the May 15 issue of *Geophysical Research Letters*, links the slow, multi-decadal changes in North Atlantic temperatures to North American rainfall and river flows.

According to the article, central and south Florida receive more rainfall during multi-year periods when the North Atlantic is warm. For example, a 10-year average inflow to Lake Okeechobee during warm phases is 40 percent greater than for cool phases. For most of the past 30 years, the North Atlantic has been cool and Florida has had less rainfall. Current data suggest the Atlantic is warming. The result may be less frequent droughts but more flooding.

By adapting water management strategies to this North Atlantic climate pattern, water managers hope to better meet the competing objectives of flood control, water supply and environmental enhancement.

The observed link between temperatures and wet and dry cycles does not take into consideration issues such as global warming or changing land use.

Jana Goldman, AOML
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"ACCESS" Workshop Addresses Coastal Storms

The Florida Division of Emergency Management and the National Coastal Data Development Center, under the auspices of Project Accelerated Coastal Community Environmental Science Service (ACCESS), sponsored a Coastal Storms Workshop in February. More than 100 representatives from Federal, state and local agencies attended the workshop to discuss coastal storms, in particular, storm surge forecasting and storms at landfall with heavy rain.

The workshop addressed pre-storm planning, storm forecasting and post-storm assessment. Topics discussed included the history of coastal storms, forecasting technologies, emergency response approaches, and storm assessment strategies. The sessions included a panel discussion providing community and commercial input. Speakers included:

- Don Wernly, NWS Performance and Awareness Division Chief, who offered an assessment of storm impacts and hazards
- Col. David Bird, who defined emergency management issues at Eglin Air Force Base
- Dr. Hans Graber, University of Miami, who presented a new model for storm surge prediction and assessment.

The Coastal Storms Workshop was one of a series presented by Project ACCESS, a group formed to coordinate coastal data collection and distribution.

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Emergency Alert System Notice of Proposed Rulemaking Comments

In June and July, NWS filed comments on the Federal Communications Commission (FCC) Notice of Proposed Rule Making. The notice concerns amendments to the FCC Part 11 Rules governing the Emergency Alert System (EAS). The proposed changes would make the EAS more effective in communicating warnings for hazardous weather.

NWS and the Society of Broadcast Engineers requested most of these amendments more than three years ago after the 1996 implementation of the EAS protocol. NWS comments are on the Web at **www.nws.noaa.gov/om/NWS_EAS.htm**. To see all the comments, see **www.fcc.gov/searchtools.html**. Go to "Search for Filed Comments" and enter (Docket No.) 01-66 under "Proceedings." NWS does not expect the FCC to rule until early 2002. After adoption of rule changes, EAS equipment manufacturers and broadcasters will likely have at least 6 months to 1 year to prepare for the changes.

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Midland NWR Receiver Issue Resolved with Software Patch?

In April, NWS and Midland Consumer Radio Corp. found that the Midland Model 74-210 weather radio receiver does not always switch to alert mode when it receives the NWR Specific Area Message Encoding (SAME) signal.

The situation may be resolved by a modification to the NWR Console Replacement System (CRS) software under going Operational Acceptance Testing this summer. Test objectives are to verify the CRS modification improves the performance of the 74-210 ***and*** does not degrade the performance of other NWR receivers. Field tests at six NWR transmitter locations in the central United States have proved inconclusive to date. During August, NWS will install and test the CRS modification at additional sites in each region before deciding whether to implement the modification nationally.

Herb White, Dissemination Services Program Manager
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EMWIN Prepares for Change To GOES N Satellite Series

The Emergency Managers Weather Information Network (EMWIN) has matured into a very effective and valuable service for its users. Through EMWIN, the NWS provides vital warnings and other meteorological information to a broad spectrum of users in an inexpensive manner. The received satellite broadcast may also be rebroadcast to local users by public and private organizations on a dedicated VHF or UHF radio frequency as an audio signal or over satellite, as in the case of PeaceSat (GOES 7), done by the University of Hawaii to the Pacific Rim area.

EMWIN is now broadcast from GOES-East and GOES-West satellites. GOES-M, the final satellite of the current series, was launched on July 23 and after checkout will be placed in on-orbit storage. Currently, GOES-N is scheduled for launch and storage in orbit in February 2003. Transition of the EMWIN broadcast to GOES-N will not occur until sometime between 2003 and 2005 barring multiple catastrophic satellite failures.

EMWIN cannot be broadcast in its current form on the GOES series N through Q. Major differences are:

- The new series of satellites will broadcast a digital signal rather than the current analog
- The EMWIN signal will use a dedicated transponder rather than share a channel
- The EMWIN signal will conform to international regulations for power flux density resulting in reduced EMWIN broadcast power levels
- Broadcasts from GOES-N series will require different modulation characteristics.

These changes will require a new EMWIN receive system design by private sector manufacturers. An inexpensive chip set incorporating a form of forward error correction called turbo coding has recently become available. A study will determine the feasibility of using turbo coding in the GOES-N EMWIN modulation. If successful, the new chip set would provide a low cost alternative to the chip set originally proposed for a GOES-N EMWIN demodulator. Additional GOES-N through Q broadcast simulations will be conducted this year to obtain the technical information necessary for the design of new digital receiver systems.

In early June 2001, the GOES-11 spacecraft was taken out of on-orbit storage to simulate the GOES-N environment. The tests confirmed the current spacecraft series (GOES-I through M) can support alternative transition scenarios. These scenarios include operating either WEFAX or Low-Rate Information Transmission (LRIT) with either the current EMWIN or a simulated (not at the final GOES-N frequency) GOES-N EMWIN.

In the spring, NWS introduced a new National Administrative Message for EMWIN. The WMO header for the message is NOXX20 KWBC and the AWIPS identifier is ADMEMW. To date, we have issued two messages under this header about the transition to the new GOES-N series.

NWS and NESDIS are committed to the continuity of the EMWIN program. The EMWIN home page, **iwin.nws.noaa.gov/emwin/index.htm**, will be regularly updated with transition information to the GOES-N series. Questions received at EMWIN.System@noaa.gov are used to maintain a list of FAQs on the home page.

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Training

FY 2002 Training Plan Released

The FY 2002 Implementation Plan for Training and Education (IP02) process is complete. The Directors have agreed on the items and funding levels for IP02. New residence training programs to be developed in FY 2002 are:

- Climate Symposium to discuss national climate issues
- Data Acquisition Operations course focusing on data acquisition policies and procedures
- Basin Customization/Localization course to provide customization information of local hydrologic river basins.

We will also continue training on NWS systems and technology, and severe weather warning decision making. Some of the non-residence items to be funded in FY 2002 are:

- Regional aviation workshops focusing on improving ceiling and visibility forecasts
- Learning Management System Software to enable employees to register for and track completed training
- Regional marine workshops
- Hydrology workshops and Web modules
- Regional Training Funds for information technology and facilities.

The IP02 is posted on the Web for use in Individual Development Plans in August.

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SOO/SAC Workstation Eta Version 2.0 Released

In April, the National SOO Science Applications Computer (SAC) coordinator launched an update of the SOO/SAC WS Eta. Here are just a few of the enhancements released by COMET.

- Guidance for viewing model data in AWIPS
- Hydrostatic/non-hydrostatic physics option
- Choice of SIGMA or Eta vertical coordinate system
- Dual-CPU support (90 percent performance improvement 1 -> 2 CPUs)
- Model physics current with operational version of Eta
- New high resolution (0.5 degree) SSTs data
- Using 32 km Eta tiles for initialization
- Improved benchmarking capability
- BMJ and KF cumulus schemes
- Program ETAMAP for easier domain selection
- Faster processing of raw grib data to Eta-ready format
- Easier installation and configuration
- Support for ABSOFT and Portland Group Compilers.

The SOO/SAC WS Eta was developed as a means of providing Numerical Weather Prediction (NWP) guidance to NWS and River Forecast Center (RFC) forecasters at temporal and spatial scales not available from operational data sources. In addition, the WS Eta may be used as a powerful tool for studying local forecast problems and historically significant weather events. The overarching goals in making local area models available are to further the knowledge and use of NWP in the forecast office and to improve the understanding of local forecast processes.

Since its initial release about a year ago, local offices have steadily increased their use of the SOO/SAC WS Eta. Use of these data in the forecast process should be furthered with the ability to view model output in AWIPS, included in this most recent release.

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NWSTC offers New Management, IFPS, Hydrology Classes

From October to May, the National Training Center taught 68 courses and graduated 747 employees. This fiscal year, the Center has offered six new courses and taught 24 existing courses. The new courses are as follows:

- **Management and Supervision** meets the NOAA 80-hour training requirements for new supervisors. It covers communications, conflict resolution, media relations and working with employees. It also includes a Situational Management Leadership program to provide real tools for the new manager.

- **Operations Management** provides shift leaders the basics of management and leadership. The courses offer basic communications and leadership training through practical scenarios and provides tools to deal with disruptive employees, as well as travel management and basic labor relations.
- **IFPS Managers** is a 2-day course introducing Meteorologists in Charge (MICs) to some of the intricacies of the new process and provides information on how the course might be introduced at a station.
- **IFPS Delta** was developed for the Eastern Region to provide some hands-on experience and go into some of the basic IFPS processes.
- **IFPS Focal Point** covers the functionality of each component, configuration of the components and suggestions on how to use IFPS in the forecast process. This course uses a series of lectures and functionality demonstrations followed by hands-on exercises. Two additional IFPS classes will cover Training the Trainer.
- **Hydrology Program Management** is aimed at service hydrologists. The course objectives are to show the service hydrologist how to maintain data and a quality data base, coordinate with NWS and external agencies, provide operational support of the WFO Hydrologic Forecast System, provide daily operational support for the WFO, and assess of hydrologic forecasts.

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Pseudo-Null Events Highlight Six New COMET Case Studies

New cases in the NWS/COMET case study library include two events where significant weather was expected, but did not occur. Other cases include flood events, lake-effect snow and isolated severe convection.

- **Case 030: Pseudo-Null Event:** An eastern Colorado Snowstorm, March 20, 2000, is the first in a series of pseudo-null event cases. A developing winter storm in the Desert Southwest lead to forecasts of over a foot of snowfall, but reports from most areas along the Front Range were from 3 to 5 inches of snow.
- **Case 031: Null Event:** A Central Plains Severe Weather, April 18, 2000, appeared to be a favorable environment for convective development but resulted in no severe weather. In this case the environmental cap was strong enough to prevent significant convection.
- **Case 32: Buffalo, NY, Lake Effect Snow:** On November 20, 2000, a snowstorm brought 2 feet of snow to Buffalo with snowfall rates between 2" to 4" inches per hour. This storm exhibited classic characteristics and disrupted the lives of more than one million people.
- **Case 33: Missouri Severe Weather:** On May 21, 2000, several isolated severe thunderstorms broke out in northwest Missouri and produced golf-ball size hail, wind gusts up to 70 mph and spawned an F1 tornado. Conditions supporting convective development were subtle and difficult to recognize, which made this a challenging event to forecast.
- **Case 34: New Jersey Flood:** On August 12, 2000, surface and upper-air features conducive to flooding rains came together across much of New Jersey. The nearly stationary, terrain-locked, convection brought 4" of rainfall per hour.
- **Case 35: San Antonio Flood:** During the weekend of October 17-18, 1998, 20-30 inches of rain fell near San Antonio, resulting in flash flooding from San Antonio to Austin, followed by record-breaking river flooding along several southern Texas rivers.

For more detailed information on these cases, go to **www.comet.ucar.edu/resources/cases/.**

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NWS Deploys Warning Environment Simulator to Field Offices

In July, NWS sent out a significant new training tool to NWS offices: The Warning Environment Simulator (WES) Version 1.0. This new software, developed by the Warning Decision Training Branch (WDTB), is the first step toward enabling NWS personnel to "train like they fight" when issuing severe weather warnings. WES uses archive data and a version of AWIPS.

Warning simulation capabilities are an important component of WDTB's Warning Decision Making workshops held at COMET classroom facilities. Only recently has the branch developed a cost-effective solution to transfer the workshop capabilities to NWS offices. Developing WES represents a collaborative effort between NWS training staff, AWIPS developers, Regional and National Headquarters, and forecast offices. WES takes advantage of Linux-based hardware solutions and the Linux version of AWIPS software to transfer some of the essential components of warning operations to NWS offices.

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Open Radar Product Generator Begins Deployment

The NEXRAD program will reach a milestone this fall when it will deploy the Open Radar Product Generator (RPG). A major component of NEXRAD, the RPG will be replaced with an "Open System." This Open RPG is designed to be vendor independent, using off-the-shelf equipment. Further, the open system software provides:

- **Interoperability:** Allows systems to talk to one another
- **Portability:** Transfers to other computer systems
- **Scalability:** Easy to upgrade as technology progresses. New products and algorithms will be more easily deployed. Technicians will be able to update hardware with faster processors and higher volume communications devices more easily. The use of open systems languages, such as C, and operating systems such as UNIX help to ensure compatibility with future technologies.

NEXRAD operators will benefit from the improved Graphical User Interface (GUI) by simplifying the task of assuring the radar is producing the highest quality data. The new GUI also minimizes the familiarization time needed to only a few hours. Operator training will coincide with deployment. Forecasters will attend teletraining on the new system the month before their Open RPG installation. A computer-based training module on CD-ROM will provide operators with detailed instruction on all operator tasks. Finally, the Open RPG includes an Electronic Performance Support System giving the operator step-by-step instructions on the same screen as the GUI. For a preview, go to **www.roc.noaa.gov/osteam/osmain.htm.**

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Warning Decision Making Workshop

WDTB has completed the third set of Warning Decision Making III workshops. These workshops take a holistic approach to the warning process and present expert speakers along with a forum for concerns, ideas and solutions. In addition, displaced real-time simulations provide an opportunity to gain experience from working warning events in a structured fashion.

Speakers focused on public response to warnings, effective wording, warning strategies, the relationship between automation and expertise, and the effective use of algorithms, lightning, satellite, and near-storm environment data.

You can view and download most topics on the WDTB Web site. Presentations from previous WDM workshops also are available at **www.wdtb.noaa.gov/workshop/wdmiii/index.html**.

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WSR-88D Distance Learning Operations Course

WDTB is now enrolling students for the WSR-88D Distance Learning Operations Course (DLOC). DLOC is offered to NWS meteorologists and hydrologists. The program covers radar theory, operations of the radar and the integration of current meteorological techniques with Doppler radar capabilities. This course is taught via a combination of teletraining, CD-ROM, Web-based instruction and on-station training. DLOC ends with the 3.5-day workshop.

The objectives are identical to the WSR-88D Operations Course (NAWS 0001) taught at the Operational Support Facility from October 1990 through April 1997. The course was an 18-20 day formal classroom and laboratory course. A total of 2,525 individuals took this course, including most field forecasters and hydrologists in the NWS, and many managers and interns. Many DOD meteorologists also took the class.

The WSR-88D Operations Course was restructured into a distance learning format in 1997. Nearly 400 NWS forecasters and hydrologists, mostly interns, have graduated from the first three DLOC classes.

DLOC technology and content has been updated. The course content will reflect the changes with AWIPS Build 5.1.1. With the exception of the AWIPS Proficiency Exam, course exams will be administered online. The online provision allows a student to take an exam anytime they are ready, instead of scheduling time with their Training Officer. Most of the course materials will be posted online at: **www.wdtb.noaa.gov/DLCourses/dloc/dlocmain.html.**

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China Meteorological Administration Radar Training Workshop

In mid-June, I gave a presentation to China Meteorological Administration (CMA) delegates attending the CMA Radar Training Workshop sponsored by the NWS. The workshop's purpose was to share lessons learned from the NWS NEXRAD program. The Chinese are setting up a network of more than 100 Doppler radars and want NWS guidance. The delegation consisted of engineers and meteorologists from several Chinese provinces. My presentation focused on operational training issues:

- Residence vs. distance learning
- Blended learning
- Development and delivery
- Synchronous vs. asynchronous delivery.

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IST PDS/VISIT Teletraining See Rapid Increase in Sessions

In July, the Integrated Sensor Training (IST) Professional Development Series (PDS) and Virtual Institute for Satellite Integration Training (VISIT) team conducted 21 teletraining sessions for 71 NWS offices. Topics included: Lightning Meteorology, Near-Storm Environment Data in the Warning Decision Making Process, Convective Initiation by Boundaries, High Density Winds derived from GOES, GOES Sounder data products and The Enhanced-V: A Satellite Severe Storm Signature.

John Weaver, NESDIS, and Dan Bikos and Brian Motta CIRA, developed a new session on Mesoscale Analysis of Convective Weather Using GOES Rapid Scan Operations Imagery. Brad Grant and Norman Junker (NWS) wrote a class on Forecasting Mesosacle Convective Systems.

The IST/VISIT training program has seen a rapid acceleration in the number of sessions given and the number of offices taking part from December 2000 to June 2001. Since the teletraining program began in April 1999, the program has conducted more than 290 live training sessions involving some 1400 offices. The program has issued over 5500 training certificates, mostly to NWS forecasters and staff. Other students include NESDIS, Department of Defense, Canadian Meteorological Service staff, college students and emergency managers. For future teletraining sessions, see **www.cira.colostate.edu/ramm/visit/ecal.asp**.

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Observing Services

Coop Meeting Targets Improvements

The NWS Office of Services hosted a Regional Cooperative Observer Program meeting, May 1-3. Topics included:

- Modernization of the Coop program
- Development of a Web-based Coop data entry program for observers
- Improvements to the award certificates
- Promotional opportunities with external users
- Revisions to the FY 02 Data Acquisition Course.

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NWS Promotes Coop Program on The Weather Channel

In March, I met with The Weather Channel to discuss ways to publicize the Cooperative Observer Program. Ideas included live broadcasts of cooperative observers during significant weather events, recognizing cooperative observers achievements (i.e., Cooperative Observer of the Month) and producing a video history of the program for the "Prime Format" show, scheduled to debut in August. The Weather Channel is genuinely interested in promoting this program.

This partnership is one that will benefit both The Weather Channel and the NWS. For more information, see the Cooperative Observer Program Headquarters home page at **www.nws.noaa.gov/om/coop/index.htm**.

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Community Outreach

StormReady Program Enhances WFO Communication

WFO Binghamton, NY, is already reaping benefits from the StormReady program. As of April, our area had three StormReady counties or communities. StormReady status has translated into increased coordination with WFO staff for winter weather, severe weather and flood events. For example, these jurisdictions relay more storm spotter reports to the NWS since becoming StormReady.

The WFO is also receiving more phone briefings between their Emergency Operations Center and our office when a storm threatens. StormReady communities have become more proactive in hazardous weather training and preparedness activities which have involved the NWS. In just three jurisdictions, there have been 10 preparedness activities in the last six months!

- Two tabletop severe weather exercises
- Two Hazardous Weather and Flooding Preparedness Courses
- One community hazardous weather assessment project
- Five separate flood preparedness presentations.

The program has also generated a renewed interest in expanding NWR coverage into poorly covered rural areas of these jurisdictions. As a relatively new WCM, this program has helped me build strong working relationships with the emergency management community not only in these StormReady jurisdictions, but also in counties working to achieve StormReady status. The program has allowed me to work more closely with state-level emergency management organizations administering the StormReady program in New York and Pennsylvania.

Most important, the StormReady program ensures NWS warnings are being received and acted upon by each StormReady jurisdiction in the most effective way possible.

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Arkansas Scores Two: NWR Transmitter and StormReady Status

On May 7, a dual ceremony dedicated the Mount Ida NOAA Weather Radio (NWR) transmitter and recognized Garland County and the City of Hot Springs as StormReady. The new transmitter serves a diverse area, from urban to rural. The area is a spawning ground for tornadoes and is particularly susceptible to damaging straight-line wind gusts.

Garland County and the City of Hot Springs became the first StormReady communities in the area served by WFO Little Rock. The emergency manager, Joy Sanders, surpassed the required StormReady elements in every category.

The NWR/StormReady ceremony was well attended. Representatives from the offices of Senator Blanche Lincoln, Congressman Mike Ross and Arkansas Governor Mike Huckabee were in attendance, as were the county judges of Garland and Montgomery counties, and the mayor of Hot Springs.

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NWR Shines with Illinois STAR

The Illinois Emergency Management Agency (IEMA) has spent $300,000 distributing and promoting NWR throughout Illinois over the last 2 years. IEMA made its contributions through the STAR program, "Surviving Tornadoes through Awareness and Reaction."

STAR is a grant program devised by IEMA, NWS and the Illinois Insurance Association that helps local communities and counties purchase NWRs. The NWRs are distributed mainly to residents of mobile home communities. Last year, the program funded 3,825 radios to 14 communities or counties. This year 4,100 radios have been distributed to 31 communities or counties, including 125 hearing impaired radios, equipped with

strobe lights and tactile sensors. The distribution of the radios is usually done with a press conference and a test of the tone alarm from the local NWS office.

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Mark Trail Award Recognizes NWR Effort

A public-private effort to get NWRs into the homes and businesses of Oklahoma City area residents at a reduced price was recognized with a Mark Trail Award recently. Called Operation Warn, the program is coordinated by Oklahoma City Emergency Management, Oklahoma Department of Civil Emergency Management, a local Emergency Alert System Committee member and WFO Norman, OK. The team worked with Wal-Mart and their supplier to make 100,000 Specific Area Message Encoder activated NWRs available to the general public at a substantially reduced price. To date, the team, together with local Oklahoma City TV stations, has helped place approximately 22,000 receivers in the Oklahoma City area.

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Winter Olympics to Feature Unique Weather Partnership

The Salt Lake Organizing Committee (SLOC) for the Olympic Winter Games of 2002 today announced a unique partnership between NWS, the University of Utah and Salt Lake City, UT's, KSL-TV to provide the most accurate, timely and venue-specific weather forecasts during the Games.

The Winter Olympics will be staged in northern Utah, February 8-24, 2002. According to Mitt Romney, president and chief executive officer of SLOC, this is also the first time an Olympic Committee has called on government and private meteorologists as well as academic experts to share forecast responsibilities. SLOC has assembled the special group called the Salt Lake 2002 Weather Support Project. The combined weather team specialists' efforts will provide a safe competition venue for the athletes and weather forecasts for the general public.

Each partner will be responsible for a specific function during the Games. NWS will provide the base-level meteorological and hydrological services used by the weather partners. This support includes issuing winter storm warnings to the state's 2 million residents as well as an estimated 1.5 million visitors expected to come to the Games. The weather service will also brief public safety, aviation operations, security and emergency management officials.

John McCorquindale, Sports Department; SLOC, Jack Kelly, NWS Director; and Mark Eubank, KSL-TV (NBC) and Salt Lake 2002's chief meteorologist, discuss plans how they will work together to provide forecasts for the Games and the public.

At least twice daily during the games, NWS will issue a special hazardous winter forecast for the transportation corridors leading to the Olympic venues. "We want everyone to be weather-wise and weather-safe during the Games. Our job will be very important to ensure people coming to Utah will be prepared for various winter weather conditions that can change in a short period of time," NWS Director Jack Kelly said.

SLOC's Olympic Games Chief Meteorologist is Mark Eubank, from the local NBC-TV affiliate. Eubank will lead the 13-member team of private meteorologists who will prepare forecasts at each venue. This team will also continually brief SLOC management officials, venue managers, coaches and athletes on weather conditions and forecasts. Eubank's team will be responsible for the forecasts for the Opening and Closing Ceremonies.

The University of Utah has developed weather tracking systems designed specifically for Utah and the Games. Five years ago the University received funding from the U.S. government to install weather sensors detecting temperature, wind, humidity and precipitation at each of the venues. Each venue has an average of three sensors. The joint weather support project forecast team already exercised their collaborative forecasting and communications capabilities during World Cup and US Finals competitive events this February and March. One of the test events was canceled because of heavy snowfall just before the event was to begin.

The official Olympic Weather Center will be located at WFO Salt Lake City, where private and government meteorological teams will prepare daily forecasts. More information about the Winter Olympics and Paralympics is available online at **www.noaanews.noaa.gov/**.

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NOAA Weather Partners Host First Severe Weather Workshop

The Storm Prediction Center (SPC) and WFO Norman, OK, hosted the first National Severe Weather Workshop March 2-3. Also contributing to the event were meteorologists from the National Severe Storm Laboratory (NSSC), the Radar Operations Center and the Warning Decision Training Branch. The event was also sponsored by the Central Oklahoma Chapters of the American Meteorological Society, National Weather Association and the Oklahoma Emergency Managers Association.

Around 300 people attended the workshop in Norman. Emergency managers from 22 states were represented. NWS held spotter training on Saturday.

The guest speaker was Dr. Mary Ann Cooper, a pathologist who has done numerous studies on the cause of lightning deaths. Her talk showed the effects of lightning on the body, pointing out that burns are more like steam burns rather than a fire burn.

Tim Marshall of Haag Engineering kicked off the workshop with a survey of the damage caused by the May 3, 1999, tornado in Oklahoma City. Tim showed how homes hit by the tornado failed. Other speakers included Dr. Greg Forbes who touched on how The Weather Channel handles severe weather and reviewed on thunderstorm dynamics.

Dr. Chuck Doswell presented his experience serving on the team that wrote FEMA's Building Performance Assessment Report on the May 3, 1999, tornadoes. Gayland Kitch of the Moore, OK, Emergency Management spoke on how emergency managers use weather service information in their decision-making process. Finally, Dr. Jim McDonald, Texas Tech University, presented his proposal to enhance the Fujita Scale.

Evaluations from the workshop showed this to be an excellent way to learn about severe storms and severe weather safety. The recommendation was to provide a media forum to discuss severe weather issues for broadcasters. Vendors thought it was an excellent way to meet new clients.

Next year's National Severe Weather Workshop is set for March 1-3, 2002. The workshop will continue to include a session for emergency managers and will include a session for the media and a presentation by vendors. There will also be arrangements to tour the facilities that house the SPC, NWS and NSSL.

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Space Weather Week Hits High Points

Space Weather Week concluded as a rousing success. The final talks were at least as good as the rest of the week's. We learned about the problems with radiation hazards to Canadian satellites and to the International Space Station. From a physician's viewpoint, we learned how this radiation can lead to career-ending exposure in one or two missions. Speakers went over research advances to mitigate these problems. Other conference topics included:

- Ionospheric disturbances causing serious communications problems for aviation
- GPS errors of up to 45 vertical feet
- Atmospheric drag, racked to the centimeter, monitored for changes in orbits
- Geomagnetically induced currents that play havoc with power grids, even when they don't lead to catastrophic failure.

The 216 registered attendees conducted ad hoc discussions at every break and social time. The excitement was obvious. The sun should be given its due: recent high activity was a reminder of the power of space weather. More complete summaries will appear on the Web in the next few weeks under Space Weather Week at **www.sec.noaa.gov**.

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Media Meteorologists Walk In WFO Shoes for a Day

Senior Forecaster Jeff Garmon has instituted a media outreach-exchange program here at WFO Mobile that has been quite successful so far. The objective of the program is to expose and educate local TV meteorologists to NWS products and operations by allowing them to work alongside our forecasters, primarily Jeff, during a shift.

Two TV mets and one newspaper reporter have taken part. Several others are planning to try it. One of the TV mets commented that his visit was very productive and that he gained a much better knowledge of the breadth of the products and services we provide, as well as an appreciation for the technology we employ in our everyday operations. In turn, our forecasters will spend time with the TV mets at their stations to gain insight into their operations.

Randy McKee, MIC, WFO Mobile, AL
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San Angelo Puts Severe Weather Warnings on Web

Although NWS Web sites contain the disclaimer that the Internet is not an official NWS operational dissemination system, some NWS customers and partners depend on it as a source of quick information.

WFO San Angelo, TX, WCM Buddy McIntyre received a phone call from radio station KEAN on May 4 asking if west-central Texas watches and warnings could be displayed on the WFO Web site. Such information could then be quickly relayed to station listeners. KEAN had been a subscriber to NWWS but because of budget cuts had to discontinue the service.

Station General Manager Rudy Fernandez had talked to several other local radio stations who also wanted an easy-to-read graphic showing which west-central Texas counties were under a warning. The media reps also requested a link from the graphic to the text of the warnings.

SOO Greg Jackson immediately set to work and within half an hour had created a link to a warning summary page from the WFO Home Page. With a reminder about our Web disclaimer, we asked Fernandez to evaluate the link as a severe weather episode was in progress. The warning summary page received high ratings. Fernandez said he easily described to his listeners the severe weather situation in his listening area.

Buddy McIntyre, WCM, WFO San Angelo, TX
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Severe Weather Awareness Week Activities Draw Media, EMs

WFO Missoula, MT, held a customer workshop this spring, drawing three TV weather broadcasters, four radio broadcasters and 10 emergency managers. We gave a customer survey along with severe weather awareness materials to attendees at the beginning of the workshop. WFO staff offered the following sessions during the day:

- NWS Web page updates
- Drought potential outlook
- Fire weather program updates and season outlook
- Severe weather spotter training
- Definitions/criteria related to warnings and forecasts
- New zone forecast format.

At the end of the workshop, the survey was discussed with some suggestions and improvements noted by the customers followed by a tour for those new to our office. In addition to the workshop, other activities during severe weather awareness week included:

- Issuing test severe thunderstorm warnings
- Working with Radio Shack Corp. to get two donated NWRs to give away via radio and TV interviews
- Conducting numerous radio and TV interviews promoting NWR and severe weather awareness.

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NWR Shaken, Not Stirred

At 10:56 a.m. Pacific Time on February 28, the Puget Sound basin experienced a 6.8 magnitude earthquake. The quake was centered off Anderson Island in Puget Sound near the mouth of the Nisqually River, officially it was named the Nisqually earthquake; the national press called it the Seattle Quake.

Just weeks before, at a state tsunami working group meeting, discussion addressed airing preliminary earthquake information on NWR as part of "all-hazard" support to the community. In the minutes just after an earthquake, this information would answer, "Where was it? How strong was it? And did it generate a tsunami?" This preliminary information would help emergency management officials prioritize where they immediately need to devote resources.

A key source for area preliminary earthquake information is the University of Washington Seismology Lab, available via National Warning System and state amateur radio networks, as well as the Web. Other sources include the Alaska Tsunami Warning Center and the National Earthquake Information Center, both via AWIPS.

The earthquake provided the opportunity to try this concept out on NWR. In the minutes after picking ourselves up and checking for injuries or damages, initial earthquake information chatter was on NAWAS. We quickly aired the initial epicenter location and magnitude on all our NWR stations in western Washington, pulling much of the routine programming off the air.

During the next 2 hours, several updates to the preliminary earthquake information came in, which we turned around and aired on NWR. Our regular programming resumed about 2 hours after the quake.

Area emergency managers applauded our effort to air the preliminary earthquake information on NWR. The information eased their work load by promptly informing the public and media, and helped them respond to their earthquake damage needs more quickly. We plan to have this process become a part of our earthquake response guidelines for WFO and NWR operations.

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TV Stations Co-Sponsor Severe Weather Week

The Amarillo, TX, Department of Emergency Management and WFO Amarillo cohosted the biennial Amarillo Severe Weather Workshop on April 7. Local TV meteorologists took part in the program and co-sponsored the event. Speakers included Warren Faidley, storm chaser and photo journalist; Jim Purpura, WCM, WFO Norman, OK, who spoke on the May 3, 2000 tornado outbreak; and Larry Tanner, Texas Tech Wind Engineering Department, whose session was entitled: "Surviving Tornado Alley." Approximately 200 folks attended the workshop.

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Icy Outreach at Crappie Point

WFO Binghamton had a booth dedicated to Weather Safety and NWR at the 26th Annual Crappie Derby in Whitney Point, NY. The Crappie Derby is an ice fishing contest in upstate New York that attracts literally thousands onto frozen Whitney Point Lake in New York. The Derby was held January 27 with wind chills plunging below zero!

A small enclosed booth was built for the NWS, which was placed on the ice, directly in the center of frozen Whitney Point Lake! Journeyman Forecaster Mike Sporer and I worked the booth from 7 a.m. to 2 p.m., braving the elements. We stressed winter weather safety to include cold exposure, wind chill and winter storm survival. In addition, we had an NWR playing at the booth, which provided the current conditions and forecasts. More than 100 people stopped at the booth, receiving the latest forecasts and weather safety brochures. We passed out over 100 brochures on weather safety and NWR. Both Mike and I did live interviews on winter weather safety on WNBF radio as a part of their coverage of the Crappie Derby.

NWS Binghamton Outreach at the 26th Annual Crappie Derby, Whitney Point, NY. From left: NWS Binghamton WCM Dave Nicosia, U.S. Congressman James T. Walsh and Journeyman Forecaster Mike Sporer.

Dave Nicosia, WCM, WFO Binghamton, NY
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Wheel of Weather, Millionaire Games Keep 'Em Coming

In a continuing effort to improve and diversify WFO Sacramento's outreach program, meteorologist Ray Kruzdlo developed two new interactive learning tools. The first is called "The Wheel of Weather" a portable carnival-like game in which a person spins a 36-inch wheel with eight different weather categories.

Whether in an office conference room or a school classroom, participants are separated into teams, spin the wheel, then answer questions. The unique scoring system, which includes a speed round at the end, allows each team to remain in the game until the conclusion. Staff have used the wheel successfully with groups as large as 200 and as small as 10.

Our second innovation is a weather version of the popular game, "Who Wants to be a Millionaire?" The game runs in Presentations 8 or 9. Using software provided by the California Specialized Training Institute, it is loaded with animation and sounds, and even has fully functional life

lines. It was customized to use weather and hydrology questions. Four options, each with different weather-related themes, were created for variety. This is ideal for use in a small-group setting, such as the office conference room.

Ray Kruzdlo, WCM, Mt. Holly, NJ
Kathie Hoxsie, WCM, Sacramento, CA
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Students Gain Weather Savvy at Aviation Conference

WFO Green Bay, WI, staff spoke to more than 1,350 4th graders during the Experimental Aircraft Association's (EAA) "Aviation Days." The event was held February 26 to March 2 at the EAA Museum. The Science, Math and Technology Section of the EAA, which developed Aviation Days, promotes science to young people, especially in relation to aviation.

Every 15 minutes, between 9 a.m. and noon, a new group of students came to the NWS booth for a presentation on how weather is measured and forecasted, and how it affects flight. Students came from all over east-central Wisconsin. Reaching this many students at the event was the equivalent of visiting more than 40 classrooms! Aviation Focal Point Rich Mamrosh and I put together the booth and presentation. The booth was also staffed by Meteorologist in Charge Gary Austin, Data Acquisition Program Manager Al Lagree, Hydrometeorological Technician Scott Cultice, and Forecasters Douglas Kennedy, Tom Helman and Teri Egger.

Jeff Last, WCM, WFO Green Bay, WI
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Natural Disaster Series Offers Educational Opportunities

NWS Binghamton, NY, is putting together a series of presentations on natural disasters that have affected the BGM County Warning Area (CWA). Each presentation in the series will focus on a different natural disaster highlighting severe weather and flood safety. The presentations will use photos, newspaper clippings, video clips, weather maps, satellite and radar images to chronologically review the details of the event. In this way, we will use local severe weather and flood events to educate the public on severe weather and flood safety.

The first in this series focuses on the Great Flood of 1972 from the remnants of Hurricane Agnes. The presentation featured an evolution of the meteorological and hydrological events that produced a record-breaking flood in the Chemung and Susquehanna River basins of New York and Pennsylvania. I used real photographs and short video clips of the flood from the local area to recreate the scenes of the flood scenario. The Agnes flood remains the number one natural disaster for the area and one of the worst natural disasters in U.S. history.

This presentation was the feature program for the Bradford County, PA, Library Association's National Library Week activities in April, reaching about 120 people. Interest generated as many attendees relived the flood through the presentation. People were invited to share their own experiences during the flood, further enriching the program. Throughout the presentation, I was able to drive home different flood safety and preparedness messages, including the dangers of inland flooding from hurricanes, the power of water, driving safety during floods and the importance of using NWR to receive flood warnings. I also educated the attendees about the NWS river and flood forecasting program and the importance of working closely with local officials and emergency management during floods. Plans are already in place to give this presentation in two other counties in the near future.

Work will begin shortly on Part II of the Natural Disaster Series which will feature the May 31 and June 2, 1998, Tornado Outbreaks that spawned 21 tornadoes in the Binghampton area.

Dave Nicosia, WCM, WFO Binghamton, NY
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Wreck of the Edmund Fitzgerald Brings Media to Marquette

The sinking of the Edmund Fitzgerald and the loss of her 29-member crew was one of the worst maritime disasters on the Great Lakes. The tragedy happened as a result of a violent fall storm on November 10, 1975, in southeast Lake Superior. Of the more than 1,000 ships that have found their graves under the icy waters of the Great Lakes, the Fitzgerald is the largest ever to go down.

During the week of November 6-10, WFO Marquette, MI, took advantage of the public focus on the Edmund Fitzgerald tragedy to educate its customers on advances in Great Lakes marine communications, observing and fore-

casting. WFO Marquette Associate Forecaster Jason Alumbaugh led a team of five forecasters researching the Edmund Fitzgerald disaster and the evolution of meteorological advances since that time. Meteorologists Carl Altoe, John Bravender, Kevin Crupi, Don Rolfson and Jeff Savadel were members of Jason's team. SOO Ed Fenelon developed a presentation on the topic and delivered it at the Great Lakes Workshop in Toronto.

Forecaster/Web Manager John Bravender designed and implemented a new Web page entitled "Storm Warning: Advancements in Marine Communications and Forecasting." The site includes excerpts from an interview with retired NWS Meteorologist John Kottke, who was in Marquette in the fall of 1975. The new Web page averaged 7,000 hits per day. A media advisory and five public information statements were disseminated generating seven radio interviews. The week culminated in a presentation, tour and interviews at WFO Marquette with three TV stations and Upper Michigan's largest daily newspaper in attendance.

Jack Pellett, WCM, WFO Marquette, MI
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Groundhog Job Shadow Day Recruits Future Staff

Last February, WFO Little Rock, AR, took part in "Groundhog Job Shadow Day." This program was coordinated by the Arkansas Department of Workforce Education. Although the office has hosted individual students for job shadowing, this was the first time the office has taken part in the national initiative. One school asked to have a "jump start" day on February 1 with four students, while five other schools sent students to the office on February 2. Students were shown the "NOAA 30th Anniversary" video to acquaint them with all of the jobs in NOAA. A brief presentation was then offered to explain how the Little Rock office operates, followed by an office tour. A "round robin" was then undertaken whereby students sat in with forecasters and other personnel, spending about 20 minutes at each of five positions. During the three sessions, student participation was limited to six students for each session, to provide a more personal visit. Students were provided with a locally developed pamphlet and other materials which further explained the jobs in the WFO and the educational requirements for the jobs. Most of the students indicated an interest in a career in meteorology.

George R. Wilken, SOO, WFO Little Rock, AR
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NWS Billings Visits Rural Montana Schools

Many of WFO, Billings, MT, residents live in very small towns. To reach this widespread group, I spent a day touring rural Montana giving weather safety talks to students at country schools. Following his talk, I gave a demonstration on how the students could get the latest forecasts from the NWS Billings Web site. A teacher got so excited when she watched this that she shouted "Look! They actually know that we're here."

The picture shows me (back left) at the Hawks Home Country School with the Carter County Disaster and Emergency Services Director Candy Loehding (back right). Also pictured are students from five other rural schools in the County including Johnston, Ridge, Hammond and Albion Elementary.

In addition to visiting rural Carter County, I also gave weather safety talks to the students of Ekalaka Elementary School and provided an evening SKYWARN Storm Spotter Training Class at Ekalaka High School.

Steve Kuhl, WCM, WFO Billings, MT
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Key West Hosts Booth At Earth Day Celebration

WFO Key West, FL, hosted a booth at the Earth Day Celebration at Bahia Honda State Park on Saturday, April 21. Here's a summary of the day.

- About 225 people stopped by the booth: 20 percent Hispanic and African American, evenly split between men and women; about one-third children under age 13.
- The booth consisted of brochures, poster and Web site display, NWR demonstrations and videos of hurricane Georges, Irene and several waterspouts. The most popular brochures were the ones on hurricanes and the Florida Hazardous Weather Awareness Week.
- The most frequent questions were about hurricanes, waterspouts and lightning as well as marine safety and forecasts. Many questions about safety procedures con-

cerning these topics. Many people asked about NWS Key West almost closing a few years ago and the office's future.

- We received many surprised comments on display of severe weather comparisons between different countries.
- Many people were pleased to learn about NWS Internet sites.

It was a productive day. A good deal of information on severe weather safety and NWS operations was distributed to many people. Everyone we spoke to was delighted about having a NWS office in Key West to provide information such as this.

Wayne Presnell, WCM, WFO Key West, FL
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WFO Helps Lead EOC Seminar

In Training The Key West Emergency Operations Center (EOC) organized a 2-day training seminar for emergency personnel in the area. Seven employees from WFO Key West presented slide shows on various topics of severe weather and NWS operations as well as answered questions of the audience. The presentations lasted for a total of 2 hours. Thirty emergency personnel attended, including representatives from Monroe County EM. Speakers included MIC Bobby McDaniel; Lead Forecaster Joe Barrett; Met. Intern Laura Finlon; Forecasters John Koch and Chip Kasper; DAPM Tom Tarlton and myself.

Wayne Presnell, WCM, WFO Key West, FL
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Earth Day Event Draw 1300+ to Joint California Event

Underscoring the partnership between the U.S. Navy, NOAA and other environmental agencies located in the Monterey Bay, CA, area, several organizations joined in a community-wide Earth Day and open house on April 21. More than 1,300 people attended the combined activities.

Electric Girl: Danielle Clark, daughter of NWS San Francisco Bay Area Hydrometeorological Technician Diana Henderson, gets a charge from a Van De Graff generator which is used in this lightning display simulator. The simulator helps to show what happens when static electricity is in the air.

The day long events included more than 600 people taking a tour of the WFO San Francisco Bay Area. The WFO shares facilities here with the U.S. Navy's Fleet Numerical Meteorological and Oceanographic Center and Naval Research Laboratory.

U.S. Rep. Sam Farr (D-CA) and Dr. Paul Moersdorf, director of NOAA's National Data Buoy Center (NDBC) in southern Mississippi, were two of the distinguished guests. Other attendees included military officials from the Naval Meteorological and Oceanographic offices and the commander of the Naval Post graduate school. The Mayors of Monterey, Seaside and Marina, also reviewed displays from local agencies such as the Monterey Bay Aquarium, Monterey Bay Aquarium Research Institute, University of California at Santa Cruz Research Lab and the Moss Landing Marine Research Lab.

NWS Administrative Assistant Lynne Trebler said, "In the spirit of Earth Day, we limited the paper handouts to our guests. Rather, we demonstrated various NWS products and services through our tours, by showcasing our equipment, and had many interactive displays for the participants."

One of the crowd pleasers was an 8-foot tornado simulator made by Bob Levno, NWS Electronics Technician. A fan caused a column of water vapor to move upward while drafts spun counterclockwise. Seven-year-old Megan Schmidt of Monterey agreed, "The tornado was the best part of the open house."

NWS staff also displayed an ALERT weather station, other weather monitoring equipment, played weather safety videos and much more during the day. Meteorologist Suzanne Anderson helped local Girl Scouts who interviewed her to earn their new meteorological badge. Anderson helped the students put their knowledge to work by learning when it is going to rain and how to estimate wind speed.

The Monterey staff used a "Wheel of Weather" to encourage children attending the festivities to answer questions about weather-related topics. For taking part, many children received a ruler from Meteorological Intern Shane Snyder with the WFO phone number and Web site. NWS staff also demonstrated how forecasters use the upper air sounding balloon to map the atmosphere.

To illustrate lightning safety, WFO staff borrowed a Van De Graff generator from WFO Billings, MT. This generator shows what happens when static electricity is in the air. Staff explained proper safety procedures to take when you find yourself in an area where there is an active electrical storm.

During the NWS tour, the Monterey staff demonstrated how the forecasters use the AWIPS system, Doppler Weather Radar display, the Console Replacement System (CRS) and other weather observing equipment.

Marilu Trainor, Western Region Public Affairs Officer
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Little Rock WCM Offers Spotter Tips to Australia's Bureau of Meteorology

Bureau of Meteorology (BoM) in Australia recently contacted our office for ways to improve and expand their spotter program. Australia has registered about 3,000 spotters since the program's inception in the early 1990s. (This compares with more than 5,000 spotters in WFO Little Rock's area since the start of 1997.)

The Australian criteria for severe weather are very close to those used in the United States. "Downunder" severe hail is defined as in excess of 2 cm (0.79") and winds exceed 90 km/hr (56 mph). Spotters report tornadoes, funnel clouds and waterspouts. Reporting heavy rain varies by states and territories in Australia and depends on the hourly rainfall rate which equals or exceeds the rate which recurs, on average, once every 10 years. In general, this comes out between 0.80" to 3" per hour, depending on the area.

John Robinson, WCM, WFO Little Rock, AR
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Poster Draws Crowds at Marine Meeting

I recently took part in the Coastal Storms Workshop held in Destin, FL. The event, sponsored by NOAA and the Florida Division of Emergency Management, was designed to improve collaboration among the commercial marine community, academia and federal and state government agencies.

I presented an overview of the NWS marine forecast and warning programs and briefed attendees on NWS marine operations, from high seas forecast to coastal flood and special marine warnings. Specific topics included wave forecast methodology and storm surge modeling.

For the poster sessions, I brought along the poster entitled, "Overview of a National Weather Service Forecast Office" (see photo). The poster was developed by Tallahassee forecasters and SOO Irv Watson.

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SKYWARN Director Wins NOAA Environmental Hero Award

Colby, KS, resident Mike Albers was awarded a 2001 Environmental Hero award from NOAA on April 26. Albers, volunteer director of the Thomas County SKYWARN network, was one of 27 Americans who were recognized for outstanding service to the NWS.

Albers directs a network of amateur radio operators ("hams") reporting directly to NWS Goodland, KS, about severe weather. Mike's leadership of the SKYWARN spotters has been essential in keeping the ham network activated. The network has been a key source of weather data for the Goodland office. They provided essential information for events such as the July 21, 1996, Colby tornado and the April 6, 2001, severe weather outbreak across northwest Kansas. Under the direction of Mike Albers, SKYWARN volunteers have set up a weather station at Colby High School, providing continuous weather information to WFO Goodland via amateur radio.

Mike was presented a certificate and letter from NOAA Acting Administrator Scott Gudes at a luncheon in Colby on April 26. MIC Scott Mentzer and I were on hand for the event.

Kevin Lynott, WCM, WFO Goodland, KS
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First Ever Local Disaster Network Meeting Steps Forward

In April, the Disaster Network of the Lower Rio Grande Valley, TX, held its first meeting. WFO Brownsville MIC Richard Hagan and I organized this meeting in cooperation with the Regional Division of Emergency Management to develop a stronger partnership with the key players involved in emergency response and recovery efforts. The event drew 20 organizations willing to explain their emergency roles, exchange 24-hour contact information and express concerns.

Attendees include city and county emergency managers, Salvation Army, American Red Cross, Food Bank, South Texas Disaster Committee, two utility companies, TV stations, radio stations, Texas National Guard, and the International Boundary Water Commission. Many attendees said it was a step in the right direction. A directory with contact information of all participants in this Network is being prepared to enhance cooperation between these diverse agencies for future efforts.

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Emergency Management Double Header Scores Two

I recently attended a double header: back-to-back Integrated Emergency Management Courses (IEMC) at FEMA's Mount Weather, VA, facility.

The first week involved Thurston County, WA, home of state capitol, Olympia. The topic for the 85 attendees was earthquakes, timely after a 6.8 magnitude quake just weeks earlier. The second week was for Pierce County, homes of the state's second largest city, Tacoma. The 99 participants focused on a Mt. Rainier lahar, better known as a mudflow.

I taught a session on "all-hazards" weather support and took part in the 2-day hazard response and recovery exercise. During the exercise, I provided weather guidance on request and issued products. The course's goals were to:

- Better integrate jurisdiction response and recovery units and test their emergency plans in an enclosed environment, away from the distractions of their jurisdictions
- Build enhanced teamwork among the varied jurisdictions and emergency management players.

Attendees included elected and emergency management officials, law enforcement, fire, public works, city and county managers, emergency medical, public and private utilities, transit and community services such as the American Red Cross. If you have not taken part in the IEMC class, I recommend the experience. The team building opportunity will carry on for years to come.

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State Emergency Management Conference Opens Doors

The annual Washington State Emergency Management Conference drew more than 450 emergency management officials from the Pacific Northwest as well as companies like Boeing, Microsoft and Bank of America.

NWS had a booth at the conference focusing on StormReady, NWR and NWS Web pages. Portland WCM Dan Keeton, Pendleton WCM Dennis Hull and Spokane WCM Ken Holmes helped me staff the booth and network with attendees. I taught two conference sessions: NWS partnerships and NWS products and services. This annual conference is a golden opportunity to meet with our key emergency management customers.

Ted Buehner, WCM, Seattle, WA
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Kids Teach Weather Safety to Parents

In May, WCM Todd Heitkamp conducted a week-long "Ready, Set, Go" class for all 4th graders at a Sioux Falls elementary school. The students began the week by completing a weather test to gauge their weather safety expertise. Only one student out of 91 received a perfect score. By the end of the week 52 students received a perfect score!

Parents also took the test. The students were encouraged to discuss weather safety issues with their family throughout the week. They even were given homework, designating an area at home as their tornado shelter and then drawing it on a piece of paper to discuss in class.

A poster contest was held for all the fourth-graders the following week. They were asked to illustrate or depict what "Ready, Set, Go" meant to them. It was a difficult decision for the judges, with many great entries. To learn more about the program, to go **www.crh.noaa.gov/fsd/project.htm**.

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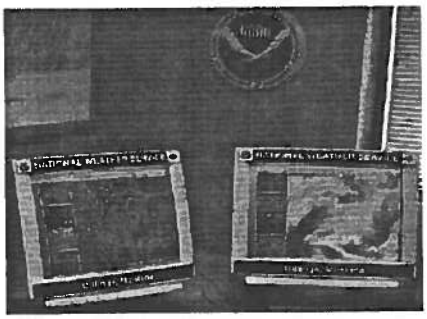
Workstation Signs Help Promote NWS

With the ever increasing importance of obtaining positive media exposure for the NWS, Steve Kuhl, WFO Billings WCM, has developed a "media stage" at his office for use during television and news print interviews. The "National Weather Service" and "Billings, Montana" signs on each AWIPS workstation were supplied to all offices in the region by the Western Region Headquarters, Public Affairs Office.



Note that Steve has also included the NOAA logo on the stage's back wall to promote NOAA's "Corporate Image." It only take a few minutes to develop a "media stage" at your office, but the benefits of presenting a professional image during media interviews is invaluable in promoting the mission of the NWS and building the integrity of the agency. This branding technique clearly illustrates to each program viewer that the interview is taking place from the NWS' modernized facilities.

Steve Kuhl, WCM, WFO Billings, MT
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Publications, Audiovisuals, Events

Partnerships Help Save Lives

The American Red Cross (ARC) and NWS continually seek new partnerships and improve existing partnerships which provide consistent science and safety information to the general public.

ARC recently developed the Masters of Disaster (MoD) curriculum. The MoD is an innovative curriculum for students in grades K-8 and helps teachers meet academic requirements. The MoD provides lessons on science, math, social studies, language arts, and fine arts by studying earthquakes, floods, hurricanes, tornadoes and in general, awareness and preparedness. The NWS provided several subject matter experts for the project and technical material integrated into MoD. The kits are specifically tailored for several grades and contain lesson plans for teachers, activity books for students, a video showing the how and why of disasters, a large poster for the classroom, and stickers and certificates for students.

The Talking About Disaster: A Guide for Standard Messages was produced by the National Disaster Education Coalition (NDEC), a group of national agencies and organizations. The NWS and the Red Cross are founding members of NDEC. NDEC's goal is to produce consistent educational information for the public on all disasters, natural or man made. Users of this guide may include emergency managers, meteorologists, teachers, disaster and fire educators, public affairs/public relations officials, mitigation specialists, and media personnel. The safety information is intended for dissemination to the general public. Messages are created for educational presentations, displays, bulletin boards, print and electronic media and any other medium in which disaster safety is communicated to the public. The NDEC encourages the widest possible dissemination of the information contained in the guide.

Both the Red Cross and NWS continually seek new partnerships and improve existing partnerships which provide consistent science and safety information to the general public.

Ron Gird, NWS Outreach Manager
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Rocky Lopes, Ph.D., American Red Cross
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Tri-logo, Indepth Brochures

Since the severe weather season this spring depleted the brochure, "Thunderstorms, Tornadoes, Lightning . . . Nature's Most Violent Storms" (NOAA PA 99050), we are quickly processing the paperwork to print another 200,000 copies. We expect to have a new supply of this publication at the National Logistics Supply Center (NLSC) by early August.

Also, we are in the final stages of revamping the hurricane brochure, "Hurricanes . . . Unleashing Nature's Fury" (NOAA PA 94050). The publication is now 16 pages and includes the Atlantic Hurricane Tracking Chart. After coordinating with our partners and getting their comments, we are going to print early August with 200,000 copies available by September.

In addition, the "Advanced Spotters' Field Guide" (NOAA PA 92055), is out of print. We will reprint 100,000 copies by the end of the summer. In the meantime, please use the "Basic Spotters' Field Guide" (NOAA PA 97050).

Linda Kremkau, Managing Editor
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NWS Publications, WSOM Chapter Updates, Roster Now Online

Attachment A is a list of NWS Publications.

Attachment B is the WSOM chapter updates. This has been greatly expanded to include all the chapters that OS is responsible for. The WSOM chapters are available to all NWS employees ONLY at **www.nws.noaa.gov/wsom/**. Please do not link this site from other Web sites.

Attachment C is the Aware Roster, consisting of a list of WCMs and SOOs in each NWS Region. Telephone numbers are ***listed*** numbers, ***NOT*** the direct number. If you have an update, please notify me at **melody.magnus@noaa.gov**. If you know someone who would like to receive the *Aware*, please contact **linda.kremkau@noaa.gov**. You can find the most up-to-date version of the WCM/SOO Roster at **www.nws.noaa.gov/om/wcm-soo.pdf**.

Melody Magnus, Editor
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Attachment A: NWS Publications

NOAA PA	NAME
70027	Survival in a Hurricane (Wallet Card)
77014	Flash Flood (Wallet Card)
82002	Dust Storm Driving Safety (Wallet Card)
82004	Watch Out Storms Ahead
85001	Heat Wave (Out of print)
85002	Hawaiian Hurricane Safety Measures with Central Pacific Tracking Chart
85005	Tornado Safety Tips (Como Protegerse En Caso De Tornado) (WC)
85006	Survival in a Hurricane (Como Sobrevivir En Un Huracan) (Spanish 70027) (WC)
86001	Natural Hazard Watch & Warning Poster (English/Spanish)
91002+	Winter Storms...The Deceptive Killers
91003*	Red Cross - Are You Ready for a Winter Storm? (Out of print)
91004	Red Cross - Are You Ready for a Winter Storm? (Spanish Version)
91005*	Red Cross Poster - Are You Ready for a Winter Storm? (English/Spanish)
92050+	Flash Floods and Floods...The Awesome Power!
92051	SKYWARN Decal
92052+	Tornadoes...Nature's Most Violent Storms
92053+	Thunderstorms and Lightning...The Underrated Killers!
92054	FEMA's Emergency Preparedness Materials Catalog
92055	Advanced Spotter's Field Guide
92057*	Red Cross - Are You Ready for a Tornado? (Out of print)
92058	Red Cross - Are You Ready for a Tornado? (Spanish)
92059*	Red Cross - Are You Ready for a Flood or Flash Flood? (Out of print)
92060	Red Cross—Are You Ready for a Flood or a Flash Flood? (Spanish)
92061*	Red Cross Poster—Are You Ready for a Tornado? (English/Spanish)
93051*	Red Cross Poster—Are You Ready for a Thunderstorm? (Out of print)
93052	Red Cross—Are You Ready for a Thunderstorm? (Spanish)
93053*	Red Cross Poster—Are You Ready for a Thunderstorm? (English/Spanish)
93056	A Pilot's Guide to Aviation Weather Services (replaces PA 71005) (Booklet)
93059	A Change in the National Weather Service
93060	Spotter ID Card (Replaces 84001) (Out of print)
94050	Hurricanes . . . Unleashing Nature's Fury (Revised 3/96)
94052*	Red Cross—Are You Ready for a Heat Wave?
94053*	Red Cross—Are You Ready for a Hurricane?
94054	Red Cross—Are You Ready for a Hurricane? (Spanish)
94055*	Red Cross Poster—Are You Ready for a Hurricane? (English/Spanish)
94056	Red Cross—Are You Ready for a Heat Wave? (Spanish)
94057*	Red Cross Poster—Are You Ready for a Heat Wave? (English/Spanish)
94058	Safe Boating Weather Tips (Revised July 1998)
94059	River and Flood Program (Hydrologic Services Program)
94061	NOAA Weather Radio Frequency Pamphlet (Revised 3/00)
96051	National Centers for Environmental Prediction
96052	Key to New International Aerodrome Forecast (TAF) and New Aviation Routine Weather Report (METAR)(Card)
96054	MSC-1, Eastport, ME, to Montauk Point, NY
99054	MSC-4, Cape Hatteras, NC, to Savannah, GA
99053	MSC-5, Savannah, GA, to Apalachicola, FL
96061	MSC-8, Mexican Border to Point Conception, CA
96062	MSC-9, Point Conception, CA, to Point St. George, CA
99060	MSC-10, Point St. George, CA, to Canadian Border
96064	MSC-11/12, Great Lakes
96065	MSC-13, Hawaiian Waters
96066	MSC-14, Puerto Rico and Virgin Islands
99064	MSC-15, Alaska Waters
96068	MSC-16, Guam and the Northern Mariana Islands
96070+	NOAA Weather Radio Brochure
96071	Atlantic Hurricane Tracking Map—8-1/2" x 11"
96072	Atlantic Hurricane Tracking Map—17" x 22" (Out of print)
96073	Pacific Hurricane Tracking Map—12" x 24"
96074E	The Hidden Danger—Low Water Crossing (English)
96074S	The Hidden Danger—Low Water Crossing (Spanish)
96076	ASOS Guide for Pilots (Booklet)
97050	Basic Spotters' Field Guide
98053	A Mariner's Guide to Marine Weather Services—Great Lakes
98054	A Mariner's Guide to Marine Weather Services—Coastal, Offshore and High Seas
99050	Thunderstorms, Tornadoes, Lightning
20050	Saving Lives With an All-Hazards Warning Network
20051a	NWR Decal (3" x 3")
20051b	NWR Decal (5" x 5")
20051c	NWR Decal (7" x 7")
20052	Hurricane Flooding: Inalnd's Real Danger
20053	StormReady
0002	NOAA Brochure

+ Available in Braille. Contact your local NWS Office, Region, or Weather Service Headquarters.

* Available from your local Red Cross chapter only.

Marine Weather Service Charts (MSCs) can be found on the Web at:
www.nws.noaa.gov/om/marine/pub.htm

You can download most of these publications from:
www.nws.noaa.gov/om/nwspub

You can obtain a single copy by writing:
NWS/NOAA
1325 East-West Highway, Rm #14370
Silver Spring, MD 20910

Attachment B: WSOM Chapter Updates

A-10 **Station Management**
Awaiting Union review.

A-40 **Service Change Process**
Chapter effective Dec. 28, 1999.

A-63 **Service Evaluation**
Chapter effective Dec. 21, 1999.

A-99 **General Weather Service Definitions**
OML issued September 2, 1999.

B-10 **NWS Surface Observing Programs (Land)**
Chapter effective December 22, 2000.

B-11 **Instrument Requirements and Standards for the NWS Surface Observing Programs (Land)**
Chapter effective December 22, 2000.

B-12 **NWS Barometry**
Superseded by WSOM Chapter B-11.

B-13 **NWS Policy for Surface Observing Programs at Federal Aviation Administration Facilities**
Awaiting FAA Review.

B-14 **Supplementary Aviation Weather Reporting Stations**
Chapter effective January 5, 2001.

B-15 **Paid and Non-paid Basic and Synoptic Surface Stations**
Superseded by WSOM Chapter B-10.

B-16 **Marine Reporting Station**
No updates before 2001.

B-17 **Cooperative Program Management**
To be updated in 2002. Chapter B-73 to be rewritten and incorporated as an appendix.

B-19 **Fire Weather Stations**
Will be updated and consolidated with D-06 in 2001.

B-22 **NWS Policy for Non Typical Surface Data Sources and Mesonets**
Awaiting initial NWS Office and Regional Review.

B-30 **Voluntary Observing Ship Program**
Due in 2001.

B-40 **Upper Air Stations**
Out for Initial Review.

B-60 **Observational Quality Control - General**
Chapter effective December 17, 1999.

B-61 **Certification of Observers**
Chapter effective October 4, 2000.

B-66 **Inspection Procedure Guideline - Surface Observation Sites**
Chapter effective November 17, 1998.

B-67 **Visitation of Upper Air Stations**
Chapter effective January 20, 1998. To be updated 2002.

B-73 **Visitation Procedures - Substations**
To be rewritten and incorporated into B-17 as an appendix.

B-90 **Special Warning Program Observations**
To be updated in 2001.

C-11 **Zone Forecasts, including Appendix B-zone maps**
Chapter effective September 5, 2001.

C-40 **Severe Local Storm Watches, Warnings and Statements**
To be updated summer 2001.

C-41 **Tropical Cyclone Program**
Chapter effective June 6, 2001.

C-42 **Combined Winter Storm and Non Precip**
Draft due August 2001. Final due October 2001.

C-43 **Coastal Flood Program**
To be updated in 2002.

C-44 **Hazards**
Draft under development. Final due November 2001.

C-45 **Meteorological Discussions and Forecast Coordination**
An OML to C-45 defining the state liaison office policy is on hold.

C-47 **County Warning Areas, Appendix A**
To be updated in 2001.

C-49 **Warning Coordination and Hazard Awareness**
Chapter effective January 14, 2000.

C-50 **Customer and Partner Outreach**
Chapter effective January 14, 2000.

C-60 **Radio/TV Dissemination;**

C-61 **Telephone Dissemination;**

C-62 **Newspaper Dissemination;**
Will begin updating and probably consolidating in 2001.

C-63 **NOAA Weather Wire Service (NWWS)**
Draft due by February 2001. Final due April 2001.

C-64 **NOAA Weather Radio Program**
OML for EAS update due summer 2001.

C-66 **Dissemination of Public Warnings**
Will probably be consolidated with C-67 in 2001.

C-67 **News Wire Dissemination**
Will probably be consolidated with C-66 in 2001.

C-75 **National Verification Program**
Rewrite in progress. Due fall 2001.

D-01 **Aviation Weather Service Program**
In process of incorporating chapters D-20, 22, 23, 24, 25, 26, 27, 30, 31, 35, 36, 38, 80, 82, 83, and 91 into D-01 as appendices.

Attachment B: WSOM Chapter Updates

D-06 **Fire Weather Services**
Chapter is currently in draft and under review.

D-07 **Marine Weather Services**
Combining D-51, D-52 into D-07 by September 2001.

D-20 **Aviation Area Forecasts**
In process of incorporating into D-01 as an appendix.

D-22 **Domestic SIGMET**
In process of incorporating into D-01 as an appendix.

D-23 **Special Aviation Forecasts and Events**
Combining D-91 into D-23 by spring 2002.

D-24 **Wind and Temperature Aloft Forecasts**

D-25 **Air Traffic Operations Support**

D-26 **Aviation Weather Warnings and Pilot Briefings**

D-27 **Inflight Reports from Pilots (PIREPS)**

D-30 **Transcribed Weather Broadcast Text Products**

D-31 **Aviation Terminal Forecasts**

D-35 **International Area Forecasts**

D-36 **International/Aviation Service Arrangements**

D-38 **International SIGMET**
In process of incorporating D-24 through 83 into D-01 as an appendix.

D-51/52 **Marine Services for Coastal, Offshore and High Seas, Appendix B/Marine Services for Great Lakes**
Combining D-51, D-52 into D-07 by September 2001.

D-80 **Familiarization Flights**

D-82 **Training Program for Pilot Weather Briefers**
Chapter issued May 15, 2001, #01-03

D-83 **Aviation Weather Seminars and Flight Safety**
In process of incorporating D-24 through 83 into D-01 as an appendix.

D-90 **Support for Accident Investigation and Litigation**
Transmittal memo issued July 15, 1997, #97-8.

D-91 **Aviation Liaison and User Support Program**
In process of incorporating into D-01 as appendix.

F-42 ***Storm Data* and Related Reports**
Second draft sent to regions. Due fall 2001.

F-60 **Tsunami Warning Service**
OML issued effective April 1998.

F-61 **Earthquake Reporting Program**
Chapter issued March 6, 1996.

J-02 **Significant Hydrometeorological Events, Post-Storm Data Acquisition and Service Assessments**
Chapter to be updated late 2001.

J-05 **Backup Operations**
Has been updated for current operations backup strategy. Will be updated by fall 2001.

J-08 **Nuclear Emergency Response**
Chapter update late 2001.

Attachment C: WCM/SOO Roster

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Jim Purpura	Dave Andra	OUN	Oklahoma City, OK	405-366-6583
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Bruce Burkman	Ken Falk	SHV	Shreveport, LA	318-631-3669
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