

Aware

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

Winter/Spring 2003

Climate, Water, Weather

Digital Services: Our Minivan

The minivan has been a phenomenal success, both for Chrysler and for the automobile industry as a whole. How did it start out? I'm sure it was not met with rabid enthusiasm by every Chrysler employee. I can almost hear them at the coffee cart. "It doesn't look like a car." "It doesn't look like a van." "Who is going to want that?" "We build cars." "This is not a car, it is a van on a car's frame." "It has no future."

The minivan was a whole new way of transportation. It hit the streets right at the time it was needed. It took families comfortably on trips, ferried kids to soccer, brought home sheet rock, and took kids and all their stuff to college. It also evolved as customer feedback suggested better ways to place seats, doors and cupholders. It grew with the nation and is still going strong. Somewhere along the road, everyone at Chrysler got behind it.

The Interactive Forecast Preparation System (IFPS) and the National Digital Forecast Database (NDFD) are our minivans. Digital forecasting is a total change in how we create a forecast and disseminate a forecast.

For many of us, the Weather Service modernization and restructuring was a big deal. And we should be proud of it. But though our accuracy and credibility have improved, the forecast process has not. The difference between us and Chrysler before the minivan is that now we are riding on a high. When you are on a high, it is easy to become complacent. And that can breed irrelevancy.

We are poised to launch the IFPS and NDFD initial operating capabilities this September. IFPS and NDFD are a totally new way of doing business. We have to change. Those who use our products will have to change.

The renaissance of information in the NDFD should be a boon to the private sector. IFPS will enable us to use better science, generate more products, and provide finer detail. The private sector will now have the opportunity to take digital forecasts and make them relevant to individual clients. Like the minivan, its potential cannot fully be perceived. Like the minivan, the first model will be a

beginning. IFPS and the NDFD will evolve and change to meet customer expectations and employee suggestions.

A quote hanging on a wall in our headquarters notes "The best way to predict the future is to invent it." It is attributed to Alan Kay. A Disney executive now, Kay worked earlier for Xerox, Atari, and Apple Computer. With IFPS and NDFD we are inventing the future. Through this process we have the opportunity to reinvent the forecast process and reinvent the way meteorological services are delivered. It is a fantastic opportunity. We need to focus our inventive resources, actively engage the private sector, and listen to our customers. As we do, we will invent a future that we all can be proud of. Our minivan is about ready. Let's roll it out in style.

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

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Aviation

NWS Aviation Conference Planned for May 13-15

*By Carl Weiss, OCWWS Aviation Services Branch
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The Office of Climate, Water, and Weather Services (OCWWS) is planning a national aviation workshop May 13-15 at the NWS Training Center in Kansas City, MO. Weather Forecast Office (WFO) aviation focal points and representatives from all Central Weather Service Units are invited to attend.

The exercises, panel discussions and presentations will focus on the future direction of NWS aviation weather support and the impact this support will have on our customers. In addition, representatives from the Federal Aviation Administration (FAA) and the air transportation industry will participate. By the end of the conference, workshop participants should:

- Understand current NWS aviation products and services
- Be acquainted with the NWS vision to improve these products and services to enhance the safety and efficiency of the National Airspace System (NAS)
- Have shared ideas and best practices to be used across office and regional boundaries
- Understand customer requirements
- Recognize impacts of NWS aviation products and services on our customers' operations
- Be able to address regional and specific issues.

Aware

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

Highlighting the agenda will be NOAA Administrator Vice-Admiral Conrad Lautenbacher, who will discuss NOAA's role in weather forecasting for air transportation. Lautenbacher also will present the first annual Aviation Services Awards, recognizing the NWS individual and team who have contributed most to forwarding aviation weather support during 2002.

NWS Deputy Director John Jones will discuss NWS's role in enhancing the safety and efficiency of the NAS.

Steve Brown, FAA Associate Administrator for Air Traffic Services, is slated to speak about the importance of accurate weather forecasts for air traffic management.

Aviation-Related Web Training Modules Updated

by NWSTC Staff

Two aviation-related modules included in the NWS Forecaster Development Program have been updated. Revised Web-based lessons on Terminal Aerodrome Forecasts (TAF) and the Transcribed Weather Broadcast (TWEB) are now available on the NWS Training Center Web site. The modules were updated to incorporate the changes from recently issued directives. The link for these updated modules is: http://www.nwstc.noaa.gov/ME-TTEOR/TAF/TAF_Main.htm.

For information on aviation weather prediction, go to http://www.nwstc.noaa.gov/nwstrn/aviation_met.htm.

Climate Services

Training Resources in Climate Services

*By Marina Timofeyeva, UCAR/NWS; Robert Livezey,
Climate Services; and Elliott Jacks, Training Division*

The NWS Climate Services Division (CSD) began developing the Professional Development Series (PDS) in January 2001 to improve delivery of local and regional climate services. To improve climate services, NWS must build a cadre of field trained personnel. Training is now in place or being developed to ensure field staff:

- Possess knowledge of the infrastructure for climate data and services
- Understand climate variability sufficiently to apply to local services

- Understand the basis and methodologies of NWS/ National Centers for Environmental Prediction's (NCEP) Climate Prediction Center (CPC) products
- Know how to interpret and apply CPC products, including downscaling forecasts to subregional and local levels
- Can respond to user requests for historical climate data and information, and provide public outreach.

The centerpiece of this training is a series of 4.5-day Climate Variability Symposia initiated in 2002 at the NWS/ Cooperative Program for Operational Meteorology, Education and Training (COMET) in Boulder, CO. These workshops are organized and conducted jointly by NWS and the Climate Diagnostics Center (CDC), are taught by experts from CPC, CDC, NWS Headquarters, and universities, and are partially supported by NOAA's Climate Program. These symposia provide NWS Science and Operations Officers and other specialized field staff with a background on climate variability and change, the latest developments in climate analysis and prediction (including CPC operations), and methods for documenting and forecasting local climate fluctuations. This year, the program will be offered from April 28-May 2 and July 28 - August 1. For details, see <http://www.nws.noaa.gov/om/csd/pds/pcu2/res/index.htm>.

To ensure training is accessible to all staff, NWS also is converting key lectures from the workshops to a "Webcast" format. NWS plans to have five lectures available online by the end of 2003 and all 20 available by the end of 2004. The Webcasts are available at http://meted.ucar.edu/topics_climate.php. The following climate training information currently is available:

- Quick Reference source of Climate Information and Predictions: <http://www.nws.noaa.gov/om/csd/pds/pcu1/index.htm>
- Self-guided interactive exercises on understanding and using CPC climate products: <http://www.nws.noaa.gov/om/csd/pds/pcu3/selfguided.htm>.
- Teletraining schedule: <http://www.nws.noaa.gov/om/csd/pds/pcu4/teletraining.htm>.

Three 1.5-hour teletraining sessions featuring live instructor voices will be offered to all field staff by the end of this fiscal year on the following topics:

- How to navigate the CPC Website and become acquainted with climate products
- How to interpret the CPC medium-range (6 to 10 days, week two) forecasts
- Understanding the modes of climate variability used in climate prediction.

Finally, NWS will be designing a new training module to educate field personnel in the importance of

maintaining the integrity of climate records through sound stewardship of observational platforms, sites, instruments and procedures for which they are responsible. This training module will be available in 2004.

In addition, NWS is providing hands-on training at CPC and the NWS' Climate Services Division through its Partnership Program for 10 to 20 qualified and highly-motivated field personnel each year: <http://www.nws.noaa.gov/om/csd/visitors/index.shtml>.

29 Years of U.S. Climate Maps Now on New CD-ROM

From AMS Newsletter, January 2003

A new CD-ROM version of the *Climate Atlas of the United States* is now available from NOAA. The CD-ROM atlas consists of more than 2,000 maps that depict normal or mean temperature, precipitation, snow and other parameters for the United States from 1961-1990.

The atlas, produced by the NOAA National Climatic Data Center, supersedes the version published in 2000 that contained maps for the contiguous states only. The CD-ROM atlas contains climate maps for all 50 states.

The new atlas contains weather station data for 7,700 locations along with detailed documentation of the datasets used to generate the maps.

The CD-ROM is \$130 online or \$175 by phone plus \$11 shipping. To order, go to <http://www.ncdc.noaa.gov/oa/ncdc.html> or call 828-271-4800. Maps are also available in PDF and ESRI shapefile formats online.

Earthquakes/Disasters

Montana WFOs Support Statewide Earthquake Exercise

*By Rick Dittmann, WCM, WFO Great Falls, MT
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The four Montana WFOs, Federal Emergency Management Agency and the Montana Disaster and Emergency Services (DES) took part in the FEMA Integrated Emergency Management Course (IEMC) last November. The IEMC immerses participants in the practical application of the functions associated with disaster response management. Each IEMC concludes with a simulated emergency situation that forces participants to cope with

management decisions in the high-stress disaster environment.

Attendees at the course represented dozens of local, state and federal agencies who responded to a simulated 7.0 earthquake centered near Flathead Lake in northwestern Montana. The exercise involved monthly table-top meetings leading up to the week-long simulation.

NWS provided support for search and rescue efforts, analysed the impact of debris slides on river flows and reviewed the impact of potential dam breaks resulting from the simulated earthquake. The four Montana WFOs showed NWS' desire to provide support for all hazards, weather or not.

Flooding/Hydrology

First Hydrologic Program Managers Conference Focuses on Water Experts

*By Mark Strobin
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The first biennial Hydrologic Program Managers (HPM) Conference, sponsored by the Hydrologic Services Division (HSD) of OCWWS, was held in New Orleans, December 3-6, 2002. About 175 people attended the conference, including HPMs from WFOs, River Forecast Center hydrologists, Regional and National Headquarters personnel, and guests from outside the agency.

Attendees participated in conference activities that enabled them to:

- Better understand the national vision to improve hydrologic services
- Understand the Advanced Hydrologic Prediction Service (AHPS) and the responsibility of HPMs to implement it, including its sociological aspects
- Share ideas and best practices across regional boundaries through poster presentations
- Understand the needs of NWS partners and customers through presentations
- Articulate and discuss critical operational issues
- Take part in breakout sessions and open forums on:
 - ◆ Flash flood hydrology
 - ◆ Snow hydrology
 - ◆ River ice (jams)
 - ◆ Drought.

- Participate in regional breakouts covering local issues or topics
- Receive training in program leadership, team building and customer service from Executive Trainers John Kennedy and Warren Blank.

"We wanted to get everyone together, all of the service hydrologists and hydrology focal points at the Weather Forecast Offices, River Forecast Centers and Regional and National Headquarters," said Glenn Austin, Hydrologic Services Chief, OCWWS. "We met to build a basis and understanding of hydrologic service goals and priorities and to provide a clear understanding of what the Advanced Hydrologic Prediction Service is and the roles and responsibilities for implementing AHPS across the country."

NWS Director Jack Kelly opened the conference with a presentation followed by a question-and-answer session. Kelly commented, "The emerging issue in this country, and around the world, is water availability, accessibility and quality." OCWWS Director Greg Mandt discussed the significance of the hydrologic program. Director of the Office of Hydrologic Development Gary Carter spoke about the important role HPMs play in the NWS mission.

Presentations by Kevin Stewart, Chairman, National Hydrologic Warning Council, and Manager of Information and Flood Warning Systems, Denver Urban Drainage and Flood Control District, Denver, CO; and Jim White, Emergency Management Coordinator, Harris County, TX, provided the HPMs with views from two customers and partners.

In his remarks, Stewart noted that the AHPS initiative has "elevated the status of the NWS Hydrology Program in the country." In turn, he added, the importance the NWS is giving to improving hydrologic services is helping him and his peers make their cases for improving hydrologic services at state and local levels. White told conference attendees, "We need to continue to strengthen our partnership and leverage off each others resources in order to effectively plan and respond to flood hazards such as those caused by Tropical Storm Allison."

Feedback from NWS attendees indicated the conference was worthwhile. "The fact that this conference was organized and conducted for . . . WFO Hydrologic Program Managers makes me feel the work I do for the NWS is important . . ." noted Service Hydrologist Steve Bays, WFO Little Rock, AR.

You can find more information about the conference at: http://www.nws.noaa.gov/om/flashflood/hpm_conference/index.shtml.

Heat/Sun Safety

NWS Partners With EPA and AMS To Develop Sun Safety Kit

By NWS Focus Staff

NWS, the Environmental Protection Agency (EPA) and the American Meteorological Society (AMS) have announced a new outreach/education tool to teach children about ultraviolet radiation and sun protection: the SunWise Meteorologist Tool Kit.

"Now our meteorologists can enter a classroom and talk to teachers and students about the impact sun has on their daily lives and how to protect themselves against skin cancer and other health issues," said Ron Gird, NWS Outreach Program Manager.

The new SunWise Meteorologist Tool Kit was designed to raise awareness of UV radiation, ozone depletion and simple sun safety practices for school children from kindergarten through 8th grade.

"The kit has a dual focus of health and environmental issues," said Jason Samnow, Climate Scientist with the EPA. "We want to raise awareness of stratospheric ozone depletion, as well as sun safety practices. Raising awareness at an early age can reduce the chance of developing skin cancer later in life. This is an important subject and has long-term health and environmental impacts."

The kit was developed with the needs of schools and educators in mind, notes Gird. It provides teachers maximum flexibility, allowing them to use the kit as a stand-alone teaching tool or in conjunction with existing school curricula.

The kit contains interactive activities for school presentations, a UV-sensitive frisbee, an application for the school to receive its own free SunWise kit and several brochures, booklets and fact sheets. For more information, go to: <http://www.epa.gov/sunwise/>.

Hurricanes/Tsunamis

TPC/NHC To Issue 5-Day Tropical Cyclone Forecast

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Beginning with the 2003 hurricane season, the Tropical Prediction Center/National Hurricane Center (TPC/NHC) will issue 5-day track and intensity forecasts. The TPC/NHC has been preparing 5-day forecasts in-house for the past 2 years, and the results were deemed sufficient to begin releasing this forecast information to the public. The following list provides additional rationale in support of producing a 5-day official forecast:

- TPC/NHC has made significant improvements in track forecasts in the past few decades: 3-day forecasts, issued since 1964, are now at least as accurate as 2-day forecasts issued 20 years ago. For the second straight year, the TPC/NHC set new low-error records for 36-, 48- and 72-hour track forecasts of Atlantic hurricanes and tropical storms.
- In 2002, TPC/NHC set a new Atlantic 24-hour low-error track record; forecasts were more accurate than every individual numerical forecast model available at every forecast period (12-72 hour) in both the Atlantic and the eastern North Pacific basins.
- U.S. Navy and other groups want 5-day forecasts for routine operations.
- In a survey of the user community, approximately 80 percent indicated that a 5-day forecast would be "useful" or "essential."

While computer models and forecasts have improved over the years, occasional large errors still occur. During the 2001-2002 test period, the 4- and 5-day forecast track errors were nearly 275 and 375 nautical miles, respectively, and intensity errors were approximately 25 mph. Therefore, the 5-day forecasts should be used for planning purposes ONLY. Users should NOT concentrate on the individual points or on a single-track forecast.

Finally, the 5-day tropical cyclone forecast does NOT account for possible formation of a tropical cyclone in that period. A tropical cyclone can develop and rapidly intensify into a potentially deadly hurricane in just a few days. For example, Hurricane Camille in 1969 went from non-existent to a 185 mph/Category 5 hurricane in only 4 days before it struck the Mississippi Gulf Coast with deadly results.

NWS Prepares for Hurricane Awareness Week: May 18-24

*By Tim Schott, Meteorologist, Marine and Coastal Branch
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The 2003 Hurricane Awareness Week kicks off on May 18. Hurricane Awareness Week is an annual national campaign. NWS leads this effort to increase the public's knowledge about tropical cyclone hazards and to encourage individuals to develop preparedness plans – empowering individuals to take decisive actions in advance of these deadly storms. Each of the seven days in Hurricane Awareness Week emphasizes a different aspect of hurricane awareness and hurricane preparedness activities.

The Tropical Prediction Center (TPC) will update the 2002 Hurricane Awareness Week Web site <http://www.nhc.noaa.gov/HAW2/index.htm> and produce an updated Hurricane Awareness Week poster. NWS will provide the Internet link to the awareness page and the poster as soon as they are ready. Once again NWS is striving for a Presidential Proclamation calling on government agencies, private organizations, schools, news media and residents in hurricane-prone areas to share information about hurricane preparedness and response actions in order to help prevent storm damage and save lives.

Marine Services

National Marine Verification Program Online

*By Richard May, Meteorologist, Marine and Coastal Branch
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OCWWS continues to develop its online National Marine Verification Program (NMVP). Phases 1 and 2, implemented last fall, extract marine forecast elements and observations into the OCWWS database. Phase 3, completed in March 2003, included a robust Equitable Skill Score (ESS) and an ESS tutorial. ESS is one of the most advanced statistical measures used today. Forecasts and observation data back to 1994 are also planned.

NWS Rip Current Standardization

*By Tim Schott, OCCWS Marine and Coastal Branch
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The NWS continues to enhance the Surf Zone Forecast (SRF) text product to meet the needs of our partners and customers. At the national level the SRF debuted in NWSI 10-310 in May 2002. SRFs are provided for the very narrow area of water between the high tide level on the beach and the beginning of breaking waves on the water. SRFs are issued by many, but not all, WFOs providing marine forecasts. Changes lie ahead for the next update of the SRF for this upcoming summer season. More WFOs will issue an SRF this summer season, and this trend is expected to continue into future summer seasons. NWS Regions and WFOs will tailor the SRF to meet local needs.

Thanks to the cooperation and enthusiastic efforts of a Rip Current Standardization Team, the SRF will serve as the primary NWS product for providing Rip current information as of May 15, 2003. WFOs will have the option to provide rip current information. Rip currents are surf-zone currents moving away from the beach. Rip currents may become life-threatening to swimmers under certain combinations of wind and wave conditions, beach shape, bathymetry, and tidal action. If the WFO provides Rip current information in a text product, then one of the following three qualifiers will be used:

- **Low Risk.** Wind and/or wave conditions are not expected to support the development of rip currents; however, rip currents can sometimes occur, especially in the vicinity of groins, jetties, and piers. Anyone entering the surf should know how to swim and heed the advice of the beach patrol.
- **Moderate Risk.** Wind and/or wave conditions support stronger or more frequent rip currents. Only experienced swimmers should enter the water.
- **High Risk.** Wind and/or wave conditions support dangerous rip currents. Rip currents are life-threatening to anyone entering the surf.

WFOs are encouraged to collaborate closely with their local beachfront safety officials. Some WFOs have already undertaken an active dialogue with local beachfront agencies and life-saving organizations. The local safety officials can help pass on NWS rip current information to the public. In turn, these same officials can help relay rip current observations back to the WFO.

Incentives Highlight Weather Radio Awareness Month

By Ted Buehner, WCM, WFO Seattle, WA
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Washington State Governor Gary Locke proclaimed September as Weather Radio Awareness Month. The awareness campaign's goal was to "have weather radios become as common as smoke alarms in homes and businesses throughout the state, and to help protect lives and property from natural and man-made hazards."

The awareness campaign was conducted in partnership with Washington State Emergency Management. Campaign activities included distributing awareness materials for schools, the media and the emergency preparedness community, providing weather radio consumer incentives from vendors and scheduling media interviews to heighten campaign awareness.

Washington State Emergency Management provided their Web site, <http://www.wa.gov/wsem/>, as the focal point for campaign materials, including purchase incentives from weather radio vendors. Vendors used were listed on the <http://www.nws.noaa.gov/nwr/> Web site were used to avoid any endorsement. This concept permitted consumers to find vendor Web sites and learn about radios and incentives.

The campaign focused on the "all-hazards" warning system, a high-profile feature in a state hit by tsunamis, volcanic activity and secondary hazards from earthquakes and terrorism. Emphasis also was placed on the Emergency Alert System/Specific Area Message Encoding (SAME) radios to provide more site-specific warning information.

NWR Features for Deaf Showcased at Worldwide Conference

By Ted Buehner, WCM, WFO Seattle, WA
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Deaf Worldwide 2002 visited Seattle in November. Over 2000 deaf and hard-of-hearing people visited the

1-day event at the Washington State Convention and Trade Center in downtown Seattle. Don Miller, State Emergency Management Telecommunications Manager, and I partnered with the Washington Center for the Deaf and Hard of Hearing in a joint booth. The booth's emphasis was on "all-hazards" warning systems for the hard of hearing. We demonstrated SAME/EAS-type weather radios with attachments such as lights and bed shakers.

Montana Take Innovative Approach to Disaster Management

By Tanja Fransen, WCM, WFO Glasgow, MT
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WFO Glasgow is working with northeastern Montana counties to scientifically determine the risk of weather related hazards. Meteorologist-in-Charge Julie Adolphson and I are meeting with local officials and attending community meetings; Data Acquisition Program Manager Mike (DAPM) Rawles and Science Operations Officer Tom Salem have been collecting and analyzing data, using databases and mapping capabilities; and retired Glasgow MIC Jim Rea is researching available databases to help determine local vulnerabilities to certain weather hazards.

Several counties in northeastern Montana, as well as the Fort Peck Reservation, have an excellent start on developing their Pre-Disaster Mitigation Plans required by FEMA. The FEMA Pre-Disaster Mitigation Grant program, issued in the *Federal Register* Vol. 67, No. 38, pages 8844-8854, states that:

"The public benefit to this rule will be to assist States and communities assess their risks and identify activities to strengthen the larger community and the built environment in order to become less susceptible to disasters. Planning serves as the vital foundation to saving lives and protecting properties, having integrated plans in place can serve to both streamline recovery efforts and lessen potential future damages."

By helping to develop the plan, WFO Glasgow benefits in several ways:

- Gains a comprehensive list of weather events for use in a climatological study and for future use as a training tool for new staff members
- Continues an excellent partnership with emergency management customers
- Offers NWS the chance to provide input to local mitigation efforts.

Great Falls, MT, Meets NWR Expansion Goal With USDA Help

By Rick Dittmann, WCM, WFO Great Falls, MT
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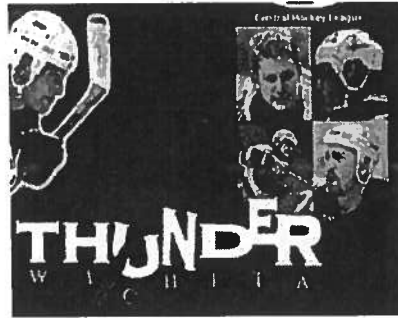
In January 2003, the U.S. Department of Agriculture/RUS NWR grant program approved the Dillon, MT, expansion NWR transmitter. With this approval, in less than 3 years the Great Falls NWS office will nearly double the area it reaches with NWR. WFO Great Falls, with the help of Western Region NWR staff and local partners, has installed transmitters in Lewistown, Bozeman and Browning since the summer of 2000. This June, we hope to bring the Dillon transmitter online, bringing the total to eight NWR transmitters covering the Great Falls county warning area. The addition of the Browning and Dillon transmitters are a result of the USDA/RUS expansion program.

Hockey Stars Scores NWR Goals for WFO Wichita

By Jim Keeney, Central Region WCM Program Manager
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Lead Meteorologist Kevin Darmofal, WFO Wichita, KS, contacted the Wichita Thunder, his local professional hockey team to see if players would be willing to do Public Service Announcements (PSAs) for NWR. Darmofal explained that the office wanted to bring higher attention to the program by having guest voices from the local community do voice promos on NWR. The Thunders' staff responded promptly. Hockey stars Jason Duda and Jeff Leiter recorded several NWR PSAs written by Darmofel. The promos are now playing on NWR every 15 minutes. Here's the text of the PSAs:

- Hi, I am _____, of the Wichita Thunder. When severe weather threatens central and southeast Kansas, listen to the voice of the National Weather Service, NOAA Weather Radio. You can get the latest information on severe weather watches and warnings that affect your area. NOAA Weather Radio could save your life!
- Hi, I am _____, of the Wichita Thunder. I know a lot about what it takes to succeed on the ice . . . You can too by listening to NOAA Weather Radio. You can get the latest winter weather information, and prepare yourself before the next winter storm hits the area, bringing ice, snow and bitter cold weather.



■ Hi, I am _____, of the Wichita Thunder. Playing (forward/defense) for the Thunder, I take a few bone-crushing hits on the ice . . . and dish out a few as well. Mother nature can also deliver

a pretty mean check, too, hitting us all with winter storms and severe weather. You can hear all the latest weather information, including life-saving watches and warnings, by listening to NOAA Weather Radio.

- Hi, I am _____, of the Wichita Thunder. Don't let the cold ice and snow of winter catch you offside – score a goal by listening to NOAA Weather Radio for all the latest weather information . . . including life-saving watches and warnings! Better yet, assist a friend, and pass the word about NOAA Weather Radio. It could save their life!

Iowa Counties Receive Grants for 46,000 NWR Receivers

Robert DeRoy, DAPM, WFO Des Moines, IA
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In the past few months, the Iowa Regional Planning Commissions received Federal funding to distribute NWR receivers. There are three separate grant projects underway in Iowa that will allow residents to receive a top quality NWR radio with programming capability.

The grant project for Regional Planning Commission Area 15 is composed of 10 southern Iowa counties; 44 communities in this area will obtain NWR receivers for residential and critical facilities for just \$11 per unit, a huge discount. Program staff distributed 26,000 receivers in February.

In March, a grant project for Region 6 in Iowa provided 16,000 NWR receivers to households and critical facilities within Marshall County at no cost to recipients.

A third grant project in Tama County has distributed, at no cost to recipients, 4,000 NWR receivers to households and critical facilities throughout the county.

These grants were obtained through the assistance and expertise of Iowa Emergency Management, which has been involved in a statewide NWR transmitter expansion project for 6 years. This expansion is expected to be completed by the end of 2003. By the end of 2002, NWR had covered approximately 98 percent of the Iowa population and 96 percent of geographical coverage.

Outreach/Education

2003 NWS Annual Partners Meeting Scheduled for June

*By Ron Gird, Outreach Program Manager
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This is the first call for the 2003 NWS Annual Partners meeting. This year the NWS has tentatively scheduled the Annual Partners meeting for Thursday, June 26, at NWS Headquarters in Silver Spring, MD. Please check your calendars to see if this is a good date for you. NWS partners attending the American Meteorological Society's annual meeting suggested having the meeting before summer vacations in July and August.

A major focus of this year's meeting will be the new National Digital Forecast Database (NDFD). Also on the agenda is the recent report by the National Research Council (NRC) on the Public/Private Partnership for Weather Services, which will have major impacts on all of us in the weather industry.

The NDFD will contain a seamless picture of NWS digital forecasts and be available to all users and partners. This will be the last scheduled meeting between the NWS and its partners before NDFD becomes operational. Several NDFD topics will be on the partners agenda.

NRC Committee Chair John Armstrong said, "It is counterproductive to set detailed and rigid boundaries for each sector . . . instead, efforts should focus on improving the process by which the private and public providers of weather information interact."

NWS will try to provide a senior manager to address the issues outlined in the NRC report. This should prove to be a lively and stimulating partners meeting. Contact me at the email address above if you have suggestions for the agenda.

AMS WeatherFest 2003 Draws Media and Public

*By Ron Gird, Outreach Program Manager
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In only its second year at the American Meteorological Society's annual meeting, the WeatherFest event for the general public was another huge success.

NWS kicked off the event by launching a Radiosonde package into the clear blue Los Angeles noontime sky. After welcoming remarks by local officials, the event was quickly overrun by dozens of local Boy Scouts and nearly 700 people from the greater Los Angeles community. Three TV meteorologists from the Los Angeles broadcast area were the official masters of ceremonies for the event. More than 40 organizations contributed to the event by providing hands-on weather demonstrations, door prizes and plenty of handouts.

The new NOAA Science on a Sphere, a 3D Earth Data exhibit, drew crowds throughout the day. Plans are already underway for the third annual WeatherFest, Sunday, January 10, 2004, in Seattle, WA. If you are interested in participating, please contact me.

AMS Corporate Forum Targets NowCasts, Partnerships, Security

*By Ron Gird, Outreach Program Manager
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The 2003 Corporate Forum was held in Washington, DC, March 9-11. This year the AMS Corporate Forum focused on three topics: air quality nowcasts/forecasts, public/private partnerships and homeland security.

Each year the AMS organizes this event to express its gratitude to the many AMS corporation and institutional members and the sponsors of AMS fellowships and scholarships. For more information, contact Gary Rassmussen, AMS Private Sector Coordinator, at (617) 227-2426 x238 or email grasmussen@ametsoc.org.

NWS Customer Relationship Management Pilot Test Underway

*By Ron Gird, Outreach Program Manager
Ron.Gird@noaa.gov*

The NWS Data Management and OCWS staff started testing Customer Relationship Management software in December 2002. The software offers a way to track and route questions sent to the NWS via email.

NWS receives hundreds of daily requests for information from our customers and partners but lacks an organized approach for managing and tracking these requests. CRM is a potential solution to delivering high quality information in a consistent and efficient manner.

In addition to routing requests to the most appropriate subject expert, the system will offer a large and expanding "Frequently Asked Questions" section to simplify the users' search for information.

The results from the pilot test were encouraging. NWS will work with the contractor to modify and enhance the NWS software package. Key features of this software include instant feedback from the CRM database and the ability to assess customer satisfaction through a short survey.

The NWS CRM software was demonstrated to NWS partners and customers at the NWS Family of Services meeting during the 2003 AMS annual meeting, February 10-13. The software will be demonstrated this summer at the NWS Annual Partners meeting in June.

Enhancing NEMA/IAEM and NWS Partnerships

*By Steve Kuhl, National WCM Program Manager
Stephan.Kuhl@noaa.gov*

NWS Headquarters continues to strengthen its partnerships with the National Emergency Managers Association (NEMA) and the International Association of Emergency Managers (IAEM).

In February, I represented NWS at the NEMA Mid-Year Conference in Washington, DC, and the IAEM Mid-Year Conference in Alexandria, VA. I also serve on NEMA's Readiness Committee. Donna Franklin, NWS Headquarters, and WCM Mary Jo Parker, WFO Wilmington, OH, serve on IAEM's annual Conference Planning Committee.

I gave presentations at both conferences, notifying our valuable emergency management partners that the NWS is exploring the possibility of issuing sub-county severe weather warnings. Feedback was specifically requested for the following three questions:

- Would sub-county identification for warning and alert purposes be beneficial in your jurisdiction?
- Do you envision any adverse impacts of the proposed NWS Sub-County warnings? If yes, what are the adverse impacts?
- Would you be in favor of such a change?

If you would also like to comment on these questions, please send an e-mail to Jim Lee, Chief, Public and Fire Weather Services Branch, NWS Headquarters, at: james.e.lee@noaa.gov.

New Meteorology Research Institute Formed in Norman, OK

*By E. W. (Joe) Friday, Founding Director, Sasaki Applied Meteorology Research Institute
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At the annual AMS conference in February, I was pleased to announce the formation of the Sasaki Applied Meteorology Research Institute at the University of Oklahoma. The mission of the Sasaki Institute is to link the needs of the private meteorological community with the research capabilities of the many meteorological activities located at the university.

I believe this new venture will set the standard for private sector academic partnerships, improve the transitions from research to operations and enhance the meteorological support to the nation. The Institute is planning its first conference May 20 - 22, 2003, in Norman, OK, to initiate its programs.

Dr. Yoshi Sasaki was one of the founding professors of the School of Meteorology at the University of Oklahoma. Among his many contributions to meteorology was the adaptation of the esoteric (at that time) mathematics of variational analyses to environmental data. The 3DVAR and 4DVAR analysis techniques used today in many numerical weather prediction systems flow directly from the pioneering work of Yoshi Sasaki. It is appropriate that an institute dedicated to the transition from research to operations be named after him. Sasaki will serve as the Honorary Director of the Institute.

NWS Provides Disaster Book for Every Dispatcher

*By Vernon Preston, WCM, WFO Pocatello, ID
Vernon.Preston@noaa.gov*

I recently teamed up with Idaho Bureau of Disaster Area Field Officer Ken Fagnant to produce a booklet entitled "Hazardous Weather Information Cards." The concept, originally labeled "Natural Disaster Information Card System" (NDIC), was developed by NOAA Cooperative Institute for Research in the Atmosphere and Fort Collins, CO, Emergency Management.

NWS and the bureau took the data and made it a booklet relevant to our local area in Idaho. Our team printed the NDIC on a color HP Deskjet, using thick card stock. We provided tabs for lightning, tornadoes, hail, winter storms and floods.

We added additional pages to help dispatchers understand NWS products, services and warning criteria. Each book also listed special phone numbers and contact points within NWS. In the back sleeve, we added NWS preparedness brochures.

The NDIC system uses a format similar to what dispatch operators use for medical emergencies. After making our first draft booklet, we asked a local sheriff and state patrol dispatcher to give us comments. Although the NDIC is available online, the review by these dispatchers demonstrated the need to have a booklet available at each workstation.

By forming a cooperative venture with BDS, the NWS was able to produce enough books for each dispatch workstation in Idaho (more than 250) as well as each WFO Pocatello emergency manager. From a WCM's standpoint, this project offered a double bonus. When distributing the books, BDS, emergency management personnel and I were able to talk to the dispatch supervisor and learn more about their concerns during hazardous weather. While visiting, we also introduced them to the NCIC Web page and on-line training options. The response was tremendous.

We also learned other governmental dispatch centers benefited from this information. Having this book in the dispatch center assisted the emergency manager in the StormReady application processes because dispatchers had severe weather knowledge at their fingertips. You can visit the NDIC home page at <http://www.cira.colostate.edu/ramm/visit/ndic.html>.

Severe Weather Plans for Schools

*By Vernon Preston, WCM, WFO Pocatello, ID
Vernon.Preston@noaa.gov*

Working from a concept developed by Sterling, VA, WCM Barbara Watson, WFO Pocatello revised, upgraded and adapted for Idaho "A Guide to Developing a Severe Weather Emergency Plan." This guide offers school administrators ideas to consider when developing an emergency action plan. In fact, the Idaho Bureau of Disaster Services has listed this information in its comprehensive plan provided to school districts for disaster planning. The guide has four major sections:

- Introduction and Discussion of NWS Services
- Understanding the Danger, Why an Emergency Plan is Needed
- Designing Your Plan
- Thunderstorms, Severe Weather, Spotting and Detection plus appendices.

Providing this information to school boards and superintendents has increased response to our watches and warnings. To ensure protection for all students, we provided the guides to public, private and parochial schools. The guide also was used by other NWS Idaho offices to help counties interested in becoming StormReady meet requirements. Each emergency manager has a copy for the reference. The guide is available at the WCM Resource Center, or you can contact me for a CD-R copy.

Idaho Offers Winter Weather Media "Ask-an-Expert" Expo

*By Vernon Preston, WCM, WFO Pocatello, ID
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In 2002, WFO Pocatello sponsored its first Winter Weather Media "Ask-an-Expert" Expo. We invited weather experts to our expo for television, radio and newspaper reporters to interview. Our experts discussed how winter weather and safety elements need be addressed before the season begins. Topics included:

- State Patrol: Driving hazards
- Transportation Department: roadway preparations:
- Idaho Disaster Services: 72 hour kit preparation, car and home
- County Extension Agent: livestock and animal safety
- USDA Avalanche Forecasters: back country, snowmobile and ski safety
- Home Depot: Home preparation
- Animal Shelter: Pet concerns
- Gas Company: Cold weather furnace and heating tips
- Fire and Emergency Management Service: frostbite, hypothermia, shoveling and wood stove safety
- Pocatello Lead Forecaster Rick Winter: Wind Chill Index and winter watch/warning criteria.

Each expert was given an area to set up displays, allowing the media to conduct interviews and learn winter techniques at each station. The one-stop-shopping for our media saved them time and fuel as well as providing them with excellent "B" role footage. This was an excellent opportunity to share ideas among various private, government and local media along with distributing a consistent message about our winter weather hazards.

Governor's Conference Puts NWS Up Front

*By Rick Dittmann, WCM, WFO Great Falls, MT
Rick.Dittmann@noaa.gov*

NWS offices in Montana took part in the 2003 Governor's Conference on Emergency Management in Helena, MT, in February. The conference was attended by emergency managers from across Montana, county commissioners, private and government vendors, the Montana Air and Army National Guard and the Montana Disaster and Emergency Services.

Attending the meeting were WFO Great Falls MIC Steve Brueske, myself and Senior Service Hydrologist Gina Loss, who oversees the hydrology program for the Great Falls, Billings and Glasgow offices; WFO Missoula MIC Bruce Bauck and WCM Peter Felsch; WFO Billings MIC Keith Meier and WCM Jim Scarlett; WFO Glasgow MIC Julie Adolphson and WCM Tanja Fransen.

Steve addressed the plenary session of the conference, detailing the NWS desire to provide services for all hazards, "Weather or Not."

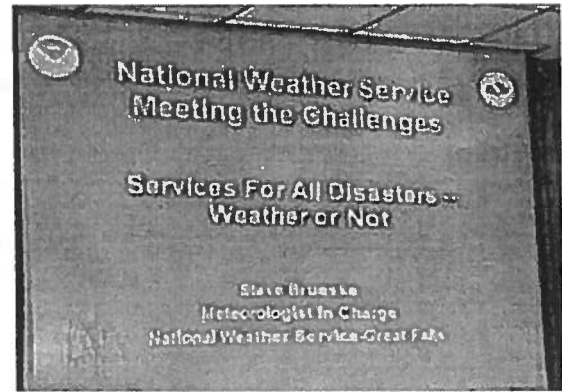
I spoke to the Montana Association of Disaster and Emergency Services describing NWS perspectives on a recently completed statewide emergency exercise led by FEMA.

The NWS group worked with their emergency management partners at their StormReady booth. Montana Governor Judy Martz honored Glasgow WCM Tanja Fransen for her receipt of the 2002 National Cline Award during the annual Governor's luncheon. Finally, a discussion was held at the State Emergency Coordination Center (SECC) regarding onsite support by NWS staff for SECC disaster activations.

Weather or Not

Money is the opposite of the weather. Nobody talks about it, but everybody does something about it.

-- Rebecca Johnson, *Vogue*



News From the American Meteorological Society

Below are brief summaries from the AMA Newsletter. For the full stories, go to http://www.ametsoc.org/AMS/newsltr/nl_01_03.html.

- **Magic School Bus Traveling Weather Show:** The Houston chapter of the American Meteorological Society is sponsoring Scholastic's The Magic School Bus Kicks Up a Storm traveling exhibit on weather. The event is sponsored by the Children's Museum of Houston in a collaborative effort with Scholastic Entertainment, the NOAA National Weather Service and the American Meteorological Society.
- **New Weather Stations to Aid Florida HazMat and Wildland Firefighting Efforts:** The Florida State Department of Community Affairs, Division of Emergency Management has purchased 24 new weather stations to help emergency response teams during emergency management activities, including responding to hazardous materials incidents and in support of wildland firefighting activities. For more information see: http://www.coastalenvironmental.com/cgi_index2.php?section=hazmat&content=index.
- **New Science.gov Web Site Aims to Connect Public to Government Science:** Fourteen scientific and technical information organizations from 10 major science agencies have collaborated to create <http://www.science.gov>, the gateway for information about science and technology from across Federal government organizations.

From the February edition, http://www.ametsoc.org/AMS/news/lt/nl_02_03.html.

- **Prague University Seeks AMS Help Restoring Library Destroyed during 2001 Floods:** Charles University in Prague, Czech Republic, is asking members of the American Meteorological Society to help restore its library, which was heavily damaged during the 2001 floods. The university lost about 5,000 volumes of textbooks and journals. For a list of requested books, see the full AMS article at the URL above.
- **New Tool to Help Keep U.S. Roads Ice and Snow Free Testing Begins this Winter:** The National Center for Atmospheric Research and the Federal Highway Administration are testing a Web-based system for weather forecasting and winter road treatment that could soon save lives, cut costs and help keep millions of drivers on the move. Highway officials and road crews in Des Moines and Ames, IA, will test the Maintenance Decision Support System February 3 to April 4.
- **EPA and Corporations Volunteer to Reduce Greenhouse Gas Emissions:** The U.S. Environmental Protection Agency and partners from leading multinational corporations have announced a new voluntary effort to set goals to improve air quality, reduce greenhouse gas emissions, save fuel and protect public health. The program is called SmartWay Transport.

AboutWeather Online Newsletter

This Online Newsletter is issued each Monday and contains a sample of important news items related to atmospheric technology from the previous week. The Online Newsletter contains headlines only, but full stories can be reviewed by simply selecting the headline of interest.

- **February 28:** NASA Selects Colorado Organization to Operate GLOBE Program
- **February 27:** WCCO-TV Launches "Junior 4 Caster"
- **February 26:** Linux Network Cluster Used to Investigate Iceland's Weather and Geothermal Energy Sources
- **February 26:** Industrial Information Resources and WSI Announce New Strategic Alliance to Serve the Energy Trading Market
- **February 25:** Pioneer 10 Spacecraft Sends Last Signal
- **February 25:** RMS Hawaii Hurricane Model Certified for Rate Filings by Hawaii's Department of Commerce & Consumer Affairs

- **February 25:** Foresight Weather and Energy Ventures Group Forecast Emerging Natural Gas Crisis
- **February 25:** NOAA Using Satellite Data to Monitor Heat Stresses on Coral Reefs
- **February 24:** NASA's Newest SeaWinds Instrument Breezes into Operation
- **February 24:** NOAA Hurricane Hunter Remote Sensing Device Gets High Marks for Measuring Hurricane Sea Surface Wind
- **February 24:** Weather.com Uses Mother Nature to Help Advertisers Reach Targeted Audience

For more news, go to <http://www.aboutweather.com/news.htm>

Severe Weather

NWS Lightning Safety Awareness Week Slated for June 22-28

*By Steve Kuhl, National WCM Program Manager
Stephan.Kuhl@noaa.gov*

NWS, in partnership with other Federal agencies and private organizations, will host its 3rd annual National Lightning Safety Awareness Week from June 22-28, 2003.

In the United States, an average of 73 people are killed each year by lightning, which is more than the annual number of people killed by tornadoes or hurricanes.



Summer is the peak season for lightning. The 2003 Lightning Safety Awareness Week is being held the last week of June to help safeguard U.S. residents from lightning's dangers. The campaign strives to lower

lightning death and injury rates, and decrease America's vulnerability to one of nature's deadliest hazards.

Through the Lightning Safety Awareness Week campaign, the NWS and our partners hope that people will take the time to learn more about lightning risks and how to protect themselves from this phenomena. To gain an overview of lightning safety, and view a listing of our campaign partners, please visit the NWS Lightning Safety Website at: <http://www.lightningsafety.noaa.gov>.

Severe Weather Awareness Weeks

NWS continues its campaign to make the public aware of the dangers of thunderstorms, tornadoes and lightning. Below is a state-by-state calendar of events for Severe Weather. For the latest information on severe weather, hurricane, lightning and winter storm events, go to <http://www.nws.noaa.gov/safety.html>.

By Melody Magnus, Aware Editor
Melody.Magnus@noaa.gov

| | |
|-------------------------|-------------------|
| Alabama | February 17-21 |
| Arkansas | February 17-21 |
| Colorado | April |
| Florida | February 17-21 |
| Georgia | February 16-22 |
| Kansas | March 10-14 |
| Kentucky | March |
| Illinois | March 2-8 |
| Idaho | May 5-9 |
| Iowa | March 24-28 |
| Kansas | March 10-14 |
| Kansas Tornado Drill | March 11 |
| Louisiana | February 17-21 |
| Maine | May 5 - 9 |
| Michigan | March 16-22 |
| Minnesota | April 7-11 |
| Mississippi | February 17-21 |
| Missouri | March 10-14 |
| Missouri Tornado Drill | March 11 |
| Montana | April 14-18 |
| Nebraska | March 31-April 4 |
| New Hampshire | May 5 - 9 |
| New Mexico | March 31-April 4 |
| New York | March 16-23 |
| Maine | May 5 - 9 |
| North Carolina | March 16-22 |
| North Carolina: Tornado | March 19 |
| Oklahoma | March 2-8 |
| Perunsylvania | March 17-21 |
| Puerto Rico | April 27 - May 03 |
| South Dakota | April 21-25 |
| Tennessee | February 16-22 |
| Texas | March 2-8 |
| Virginia: Tornado Drill | March 25 |
| West Virginia | March 23-29 |
| Wisconsin: Tornado | April 7-11 |
| Wisconsin: Lightning | June 22-28 |
| Wyoming | April 14-18 |

Storm/TsunamiReady

NWS Welcomes First Native American TsunamiReady Community

By Ted Buehner, WCM, WFO Seattle, WA
Ted.Buehner@noaa.gov

The Quinault Indian Nation became the nation's first Native American TsunamiReady Community in a ceremony at the Quinault's Taholah Tribal Center. The Quinault Nation is located on the central Washington coast which has a history of tsunamis dating back gen-



Photo from left: Quinault Tribal Leaders and MIC Chris Hill (second from left) proudly display StormReady and TsunamiReady signs.

erations. Tribal legends include the story of the Whale and Thun-derbird, the result of a major January 1700 Cascadia Subduction Zone earthquake about 150 miles off the coast, producing a tsunami of an estimated 20 to 30 feet in height and wiping out lowland coastal villages..

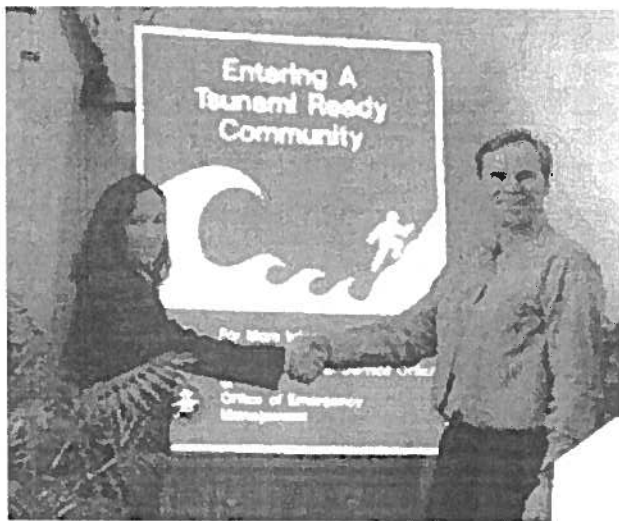
FEMA Region X Director John Pennington, Washington State Emergency Management Director and current NEMA President Glen Woodbury, and WFO Seattle MIC Chris Hill headlined the ceremony in the tribal council chambers. The Quinault Tribal Chairperson Pearl Capoeman-Baller and members of her council accepted the TsunamiReady designation and accompanying road signs.

The Quinaults are also a partner for the new Forks/ Mt Octopus NWR station that debuted in 2000, that completed the tsunami warning system along the Washington coast. The Quinault Nation became the third TsunamiReady Community in Washington state.

Homer, AK, Named First Alaskan City TsunamiReady and StormReady

By Laura Furgione,
Deputy Regional Director, Alaska Region
Laura.Furgione@noaa.gov

History was made at a ceremony on Monday, January 27, when the NWS honored Homer, AK, as the first community in Alaska to receive the dual designation of "TsunamiReady" and "StormReady", the 7th joint community nationwide.



January 2003: Homer, AK, NWS Deputy Regional Director Laura Furgione and Homer, AK, Mayor Jack Cushing celebrate the first Alaskan site to be StormReady and TsunamiReady.

The awards ceremony was held at the Homer Chamber of Commerce. Laura Furgione, NWS Alaska Region Deputy Director, was the Master of Ceremony and presented the city officials with "TsunamiReady" and "StormReady" road signs. Guest speakers included Jack Cushing, Mayor of Homer, and Dave Liebersbach, Director of the Alaska Division of Emergency Services. A special letter of congratulations was also sent from Lieutenant Governor Loren Leman.

The community has demonstrated a strong commitment to saving lives and protecting property in the event of damaging and hazardous events. Homer met the specific requirements set by the NWS in the areas of communications, warning reception and dissemination, public outreach and awareness, and administrative planning.

Huntsville, AL, Weather Office Becomes First Fully StormReady Area

The new Huntsville, AL, WFO, which was officially dedicated in January 30, 2003, has become the first to have every county certified as StormReady.

Just one month after officially opening the office doors, WCM Tim Troutman and the Huntsville staff succeeded in certifying all 11 counties in their County Warning Area, a region known for its difficult terrain and erratic weather.

StormReady certification helps counties, communities and other entities with large land tracks ensure they are ready for any weather emergency. Applicants must meet numerous criteria to attain StormReady status. For more information, go to <http://www.stormready.noaa.gov/>

Climate, Water, and Weather Links

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

