AWARE SAMPLE

WINTER 1992/93

NATIONAL WEATHER SERVICE / *Warning Coordination and Hazard Awareness Report*

SPECIAL PEOPLE

Most of us take a lot for granted. The ability to see, hear, and move freely about are all things that we fail to appreciate until we are confronted with their possible loss. But there are many people who are forced to overcome obstacles as part of their daily routine. Unfortunately, as we take our blessings for granted, it is also easy to overlook the needs of others.

A couple of months ago, Col. Rodney Jackson of the Greater Cincinnati, Ohio, Police Association; Beverly Poole, Meteorologist in Charge (MIC) of the Weather Service Office (WSO) in Cincinnati; and Bud Dorr of National Weather Service (NWS) Eastern Region visited Weather Service Headquarters (WSH) to explain the steps they are taking to extend hazardous weather warnings to the hearing impaired. Colonel Jackson is a very dynamic speaker, but what really caught our attention was his statement that over 80,000 hearing impaired live in the greater Cincinnati area alone--**80,000** people in just one city who cannot be alerted by our traditional auditory means!

Similarly, we have spent considerable time and expense to create graphical and appealing hazard awareness materials where the "pictures" tell the story. But they don't work for the sightless. Another means must be found to create awareness packages for the visually impaired.

In Cincinnati and in other cities across the United States, local NWS offices are taking the initiative to find new ways to alert special populations. To our North, offices of Atmospheric Environment Canada include calls to action in their warnings that urge persons to check on neighbors with special needs.

Dr. Elbert W. Friday, Jr., Director of the NWS, has asked that all offices reach out to special populations during this year's hazard awareness weeks. We, here in Headquarters, will explore how to get this message into our new awareness materials as well as incorporating appropriate call to action statements into updated examples for watches and warnings.

Our goals have always been to issue warnings and provide critical information to ensure the safety of all our citizens. More understanding, a little initiative, and a desire to succeed will make it so.

Donald R. Wernly

Donald R. Wernly
Chief, Warning and Forecast Branch

U.S. DEPARTMENT OF COMMERCE • National Oceanic and Atmospheric Administration

AWARE Report is an administrative document, issued by the National Oceanic and Atmospheric Administration, for the information and use of the agency and the natural hazard community.

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Please share this copy of the "AWARE Report" with others in your office.

MODERNIZATION

Warning Coordination/Preparedness Meteorologist Conference (WCM/WPM)—*Wernly*

The WCM/WPM Conference that was cancelled last November has been rescheduled for this June 1993. Obviously, we are in transition to a new administration. If everything continues as planned, the Conference will be held June 7-11 at a hotel in Miami, Florida.

Although the Conference will have a coastal theme, most of the sessions will deal with issues of concern to all warning coordination meteorologists and warning preparedness meteorologists.

A main highlight at the Conference will be Dr. Ted Fujita, Emeritus Professor at the University of Chicago, who will share his latest findings on hurricane wind fields from the Andrew and Iniki aerial damage surveys. Tours will be provided of the National Hurricane Center (NHC) and the Hurricane Research Division of the National Oceanic and Atmospheric Administration's (NOAA) Atlantic Oceanographic and Meteorological Laboratory. Dr. Robert Sheets, Director of NHC, will outline the warning process for Andrew and take the attendees on a tour of the portions of Dade County affected by the storm's eyewall. Finally, the group will be taken to the Deering Estate on Biscayne Bay to see how storm surge heights are determined.

The Conference will also include sessions on: NWS modernization issues, impacts of Public Law 102-567, role of the WCMs in the modernization, short-term forecasts, organizing and nurturing spotter groups, training on Paradox software for the Storm Data initiative, proposals for two-way communications with the hazards community, activities of the Federal Emergency Management Agency (FEMA) and the American Red Cross, and methods to involve the private sector in awareness activities. Finally, an interactive session is planned on how to deal with potentially hostile interviews.

We'll keep everyone apprised of further developments concerning the Conference. In the meantime, WPMs and WCMs should work with their regions to ensure that any additional topics are given proper consideration.

Modernizing Warning Coordination—*Adams*

The **key warning issue** facing the modernized NWS is **warning information communication**, not warning product dissemination. All too often, we forget that the NWS is only one of many critical agencies and organizations with local warning responsibilities. Robert Maddox, Director of the National Severe Storms Laboratory, points out that local NWS offices, local emergency management agencies, and the local media all form a "Weather Warning Partnership" to provide hydrometeorological warnings to the public. Each agency often has its own sources of information about the environment. Unless this information is shared, different conclusions can be reached. Different conclusions can lead to different messages to the public. This will lead to confusion, indecision, and a failure to take appropriate actions. Thus, there is a need for critical weather and flood information sharing during the warning process. How do we accomplish such a "Weather Warning Partnership" as part of the modernized NWS? There are four critical factors.

First, we must understand the goal of any warning system is to maximize the number of people who take timely and appropriate action to minimize the loss of life and property during a dangerous event. Our goal is not just to issue warning and forecast products without regard to their impact on public behavior. Social science research on warning behavior tells us that people do not simply react to warnings; rather, they make informed decisions based on the best information available. They look to multiple sources for confirming information. Local officials are traditionally viewed as the most credible source of warning information. Such information must be specific as to the threat, times, and location, and it must recommend protective actions to be taken. Warning messages from multiple sources--the media, local officials, and the local NWS office--must be consistent.

Second, we must understand that successful warnings systems have three basic functional components. These are the scientific (detection) component, the emergency management (warning) component, and the public response component. Each of these components must function interactively for a warning system to effectively protect lives. Different agencies and organizations perform the scientific and emergency management functions for different hazards. For severe weather and flooding, we find that the NWS, along with local emergency management agencies and sometimes the media, performs both the scientific and emergency management functions. Thus, there is a need for a warning partnership to share a common baseline set of detection information and issue consistent warnings to the public.

Third, we must foster these warning partnerships, also referred to as integrated warning systems, at every NWS field office. Each office must work with local officials and the media to determine their critical information needs. We need to determine what lead times they need to mobilize their hazard detection and warning dissemination capabilities. We should conduct joint meetings to educate one another about operations, detection systems, information needs, and warning capabilities. We must support joint training efforts, such as the courses discussed on page 11. Local offices should explore ways to share information and understanding about severe weather and floods.

Finally, we must provide the communications technology to support integrated warning systems in the modernized NWS. The "Local Data Acquisition and Dissemination" (LDAD) functionality of the Advanced Weather Information Processing System (AWIPS) is a step in this direction. It must continue to be revised to meet the needs of interactive communication of the integrated warning systems. Other local information sharing technologies may be needed to augment NWS capabilities in some areas. These may include local display workstations like the one being built and evaluated by Dave Small at the Forecast Systems Laboratories at Boulder, Colorado. It may include computerized local storage and communication capabilities of a joint, shared baseline set of hydrometeorological warning information as envisioned in a proposed Northeast Colorado Integrated Warning System project. Or it may include a new national warning system for Federal, state and local emergency agencies. Our information sharing needs must drive the technology selection.

This is a bold call to action from ourselves. Can it save lives? YES! Can it be done? YES! Will it be done? **It depends on you!**

Public Service Transition Plan—*Becker*

The latest revision to the Public Service Transition Plan has been submitted to the Transition Program Office in December for Change Management approval. The plan documents the requirements and implementation strategies necessary for transition of the Public Warning and Forecast Programs from current operations through the various stages of the NWS's modernization and associated restructuring.

Among the key changes for Stage 1 in this extensively revised version of the plan are the zone forecast area reconfiguration, including related issues on Local Forecast Products (LFP) and the "Short Term Forecast" (NOW).

Zone Forecast Area Reconfiguration. The Eastern, Central, and Southern Regions, in coordination with the Office of Meteorology, will reconfigure their zone forecast areas on October 1, 1993. The current plans for Western Region reconfiguration call for implementation at a later date. The Alaska Region has already reconfigured their zones while no zone changes are planned for the Pacific Region.

The reconfiguration in the eastern two-thirds of the country will use the "flexizone" or "building block" concept, where each county becomes a separate zone (some large or topographically diverse counties will be further subdivided into two or more zones). This "one county-one zone" concept will allow forecasters the necessary flexibility to group zones that more accurately depict the weather. Experiments in Michigan, Wyoming, and Iowa are proving the soundness of this concept through forecaster and user feedback.

The county-zones typically will be numbered from left to right and top to bottom in each state except that most states in the Eastern Region will use Federal Information Processing System (FIPS) numbers. These are the same FIPS numbers that are used to identify affected counties in NWS tornado, severe thunderstorm, and flood/flash flood warnings. All zone numbers, regardless of type, will use the "Z" form of the Universal Generic Code.

The Warning and Forecast Branch will notify national users at least 60 days in advance of implementation through circuit messages disseminated on the NOAA Weather Wire Service (NWWS) and the Family of Services and via letter with state maps to a comprehensive list of users, many of whom are NWWS or Family of Services subscribers. We will also prepare a revised Appendix A, "Zone Forecast Area Maps," to Weather Service Operations Manual (WSOM) Chapter C-11, "Zone and Local Forecasts." This, too, will be sent to users. The regions and local offices will send similar notices to local users through normal procedures.

Some LFPs may be retained after the reconfiguration for major metropolitan areas that encompass several counties. Certain LFPs for smaller cities/towns will, however, be eliminated and replaced by the county-zones that fully encompass those communities.

Short Term Forecast (NOW). Through deliberations at the November 1992 Meteorological Services Division Chief's Conference, it was decided that the NOW (the precursor to the Area Weather Update) needed to emphasize the short-term forecast and de-emphasize current and especially past conditions. To further drive home this point, the title of the product was changed to "Short Term Forecast" from "Short Term Weather Summary and Forecast" and the examples were rewritten to reflect this emphasis.

This and all other issues related to the NOW are contained in the latest revision of the NOW Operations Manual Letter (OML) to WSOM Chapter C-21, "Local and Regional Statements, Summaries, and Tables." This OML has been reviewed extensively by the entire NWS and accepted by the National Weather Service Employees Organization. Barring any unforeseen delays, we expect the OML to be officially approved and distributed by early spring.

Status of WSR-88D Delivery—*Pierce*

Delivery of the WSR-88Ds for the NWS, the Department of Defense, and the Department of Transportation are on schedule, and the pace is quickening. Deliveries are up to two per month now. In March 1993, Paramax will be delivering three per month, and by July 1993, they are expected to be up to four per month! Then beginning late this summer, all systems delivered prior to the Pittsburgh, Pennsylvania, Doppler (June 1993) will also be retrofit with the MicroV CPUs and the VME hardware. (A lot of us are anxiously awaiting the VME hardware because it will increase the number of communications ports.) If all this sounds ambitious or overwhelming, it is! Both Paramax and the Government have worked very hard to keep things on schedule as much as possible. Both sides have really done an outstanding job.

Federal Meteorological Handbook (FMH) No. 11—*Pierce*

The Office of the Federal Coordinator for Meteorology and Supporting Research has informed me that FMH No. 11, Part B, Doppler Radar Theory and Meteorology, has been reprinted in order to replenish the supply at the National Climatic Data Center (NCDC). The other parts of FMH No. 11 appear to be adequately stocked at NCDC.

There has been some confusion over where to obtain copies of FMH No. 11. All NWS field sites should have a copy, whether or not the site is a planned Weather Forecast Office. This includes the national centers as well. If you still find the document missing from your station, contact W/OSO14, Lester P. Merritt, at (301) 713-0722. Non-NWS organizations must contact NCDC at (704) 259-0682 for purchase of the document.

WSR-88D Dial-In Access—*Pierce*

In coordination with NWS Regions, I have completed a document that lists all NWS Principal User Processors (PUP) and the Radar Product Generators (RPG) that are authorized dial-in access to as a non-associated user. The intent of the document is to ensure that critical radar data from surrounding WSR-88Ds is available to NWS field sites in a given regional area to support their warning and forecast mission. Questions regarding dial-in access should be addressed to the appropriate regional WSR-88D focal point listed below.

Eastern Region	Mike Washington	(516) 244-0155
Southern Region	Jim Stefkovich	(817) 334-2655
Central Region	Larry Krudwig	(816) 426-3226
Western Region	Larry Burch	(801) 524-5138
Alaska Region	Herschel Knowles	(907) 271-5093
Pacific Region	Ed Young	(808) 541-1647

WSR-88D Generation and Distribution Control—*Pierce*

A non-associated Principal User Processor (PUP) can only receive those products designated to be routinely generated and distributed to them via the Generation and Distribution Control List of the WSR-88D. In response to a request by NWS Southern Region to make available the lowest elevation angles of Storm Relative Mean Radial Velocity--Map and Base Reflectivity, 1.1 nautical mile, the Office of Meteorology asked the other NWS Regions and National Centers for their thoughts regarding this. The response to date has been very positive, and it is likely we will go ahead and coordinate this change at each NWS site through the Regional Headquarters. I plan on contacting the Department of Defense to determine if they are willing to make the same changes. For those of us with non-associated PUPs, the addition of these products will be welcome.

NEXRAD (Next Generation Radar) Information Dissemination Service (NIDS) Special Subscriber—*Pierce*

Selected organizations with which the NWS has a substantial working relationship will be granted special subscriber status, which will allow the organization cost-free access to the unaltered NIDS products. The special subscriber credit will cover all access fees, but other costs, such as equipment and communications costs, remain the responsibility of the subscriber. All special subscribers will be selected by the NWS.

The Office of Systems Operations, Observing Systems Branch, has distributed the NIDS Special Subscriber Information Package and Application to NWS Regional Headquarters. Any organization interested in special subscriber status should request this from the appropriate NWS Regional Headquarters or WSHs. To apply for special subscriber status, an organization must apply to the NWS through the NWS regional office serving the state where the agency's main office is located.

The list of states and associated NWS Regions and mailing addresses for NWS are in attachment A.

WSR-88D Radar Coded Message (RCM)—*Pierce*

Although it has been quite some time since we mentioned this (one year, but who's counting), work has continued at the National Severe Storms Forecast Center (NSSFC) to ingest RCM data from the WSR-88D, nationally composite this data, and edit the composite using an automated procedure. From this, plans are to produce a "pseudo" radar observation and manually digitized radar data to be used to input into the current National Radar Summary Chart. If this project is successful and the output is of good quality, it allows us to continue producing these products during the transition without elaborate radar backup procedures.

Since budget constraints did not allow us to hire the personnel needed to manually edit the RCM composite, it was necessary for NSSFC to develop automated editing procedures. The bulk of their work during the past year has been in this area. Development and testing are complete. An evaluation of the project results was presented to the NWS Directors in February 1993. A decision was reached to maintain production of the National Radar Summary. Some funding will be necessary to purchase hardware at NSSFC to ingest RCMs from all WSR-88Ds and provide for some development and enhancement effort to improve the editing algorithm.

Quantitative Precipitation Forecast (QPF)—*Pierce*

The Warning and Forecast Branch was part of the Hydrometeorological Information Working Group (HIWG) and assisted in the development of the Operations Concept for the Production and Use of Quantitative Precipitation Information. Since completion of this document, our participation in QPF development efforts have been limited. We plan on becoming actively involved in this area. There are several efforts toward production and use of QPF. We will be working to tie ourselves into these efforts. One area of concern is the development of operational methodologies necessary to integrate AWIPS, WSR-88D, and other technologies with planned staffing to provide Initial Stage 2 Products and Services.

Correction to "NEXRAD Weather Service Office (NWSO) Duties—*Becker*

In the Summer/Fall 1992 issue of the "AWARE Report," the subject article on page 6 contained an error in the first sentence of the first paragraph. It should read in part: "...given the staffing levels of basically one meteorologist and **one hydrometeorological technician** (not one hydrometeorologist) on duty per shift."

Southwest Association of Alert Systems (SAAS) Annual Conference—*Pierce*

Chris Adams and I participated in the SAAS Conference in Phoenix, Arizona, on October 21-23, 1992. Both made presentations and participated in discussions during the open forums. Chris made presentations on the LDAD functionality of AWIPS and discussed possible interfaces with automated flood detection systems. I briefed NWS experiences with NEXRAD (program issues relating to NWS training, external user coordination and training, WSR-88D data dissemination to emergency managers, etc.) and operational experiences with the WSR-88D.

The highlight of the Conference was their participation in meetings with SAAS officers, regarding the formation of a national council. National associations of local and state government agencies that actively use ALERT and IFLOWS flood detection technologies propose to combine their associations in terms of direct coordination with Federal agencies. The council would be a conduit for coordination with NWS on related modernization issues. The NWS is looking forward to this interface with such an important segment of the hazard community.

Chemical Stockpile Emergency Preparedness Program (CSEPP)/Emergency Broadcast System (EBS) Symposium—*Becker*

The United States Congress has directed that certain kinds of chemical weapons stockpiled at eight United States Army installations in the continental United States must be destroyed over the next several years. These obsolete weapons, consisting of rockets, bombs, artillery shells, and other munitions that contain chemicals (blister agents and nerve agents) are decades old and some are beginning to deteriorate in storage and could pose a risk to public safety.

The eight Army installations and the portion of the total stockpile at each location are:

Aberdeen Proving Ground, MD - 5% (north of Baltimore)
Lexington/Blue Grass Depot, KY - 1.6%
Newport Ammunition Plant, IN - 3.9% (near Terra Haute)
Anniston Depot, AL - 7.1%
Pine Bluff Arsenal, AR - 12%
Pueblo Depot Activity, CO - 9.9%
Tooele Depot, UT - 42.3% (near Salt Lake City)
Umatilla Depot Activity, OR - 11.6% (near Pendleton)

The Army prepared an environmental impact statement, analyzing risks at each of the storage sites, which was reviewed by the Environmental Protection Agency and the Department of Health and Human Services. The study revealed that at most sites the continued storage of the aging stockpile of chemical weapons poses a risk greater than the risks involved in the proposed disposal. Further, the study determined that it was safer to dispose of the weapons on-site rather than to move them to a neutral site. As a result, the Federal Government has begun the "Chemical Stockpile Emergency Preparedness Program," a vigorous effort in cooperation with state and local officials to ensure that local communities have the capabilities to respond effectively to possible emergencies.

To gather facts and exchange information toward policy decisions, the Army and FEMA jointly sponsored the "CSEPP/EBS Symposium." Held January 26-28, 1993, at the Hyatt Regency in Crystal City, Virginia, it consisted of a nationwide audience of about 200 state and local emergency management officials, EBS focal points, broadcasters and engineers, communications equipment manufacturers, and officials from FEMA, the Army, and the Federal Communications Commission's (FCC) EBS program office.

As the title of the symposium implies, CSEPP will be using EBS as the primary means of dissemination should an "event" occur in the chemical stockpile on-site disposal. And it was stressed that accurate and site-specific notification in the first couple of minutes is crucial to public safety.

During the first day of the symposium, the various government and private sector participants presented talks outlining the issues and possible solutions. The next 2 days, which I did not attend, consisted of local and regional strategy sessions for each chemical stockpile location.

Recognizing the NWS's vast experience in warning the public of weather and flood hazards and being the primary activator of the EBS, I was invited to present a talk outlining NWS's dissemination systems (NWWS, NOAA Weather Radio (NWR), and Weather Radio Specific Area Message Encoder (WRSAME), Family of Services, etc.). In the presentation, I stressed that these systems are also available for dissemination of information on life- and property-threatening man-made emergencies through agreements typically with state emergency management agencies. These systems would be available to the CSEPP if they so decide. I also took the opportunity to discuss the NWS's modernization efforts, which apparently were of sufficient interest to the audience that the moderator let my talk and a lively question and answer period significantly exceed the allotted time.

In summary, the CSEPP/EBS Symposium greatly appreciated NWS participation. I came away with the feeling that although the risks are considered "unlikely" as stated in the official CSEPP brochure, the scope and magnitude of the symposium seemed to underscore the potential seriousness of the disposal activities. After all, despite the best of intentions, disastrous chemical and nuclear accidents do happen.

Weather Radio Network (WRN) Update—*Becker*

WRN is now "on-line." Selected NOAA Weather Radio broadcasts in the conterminous United States and the "Hurricane Hotline" began "live" availability on December 14, 1992, via a new commercial telephone network accessible by "1-900" service. The announcement was made by Dr. Elbert W. Friday, Jr., Director of the NWS, and Robert H. Hoffman, President of the Weather Radio Network, Inc., of Nashville, Tennessee.

Dr. Friday introduced the proceedings at the National Press Club in downtown Washington, D.C., on January 6, 1993. About 20 people attended, including representatives from the Associated Press, Scripps Howard News, American Meteorological Society Newsletter, the U.S. Coast Guard Auxiliary, several attorneys-at-law (this is Washington, after all!), WRN, the NWS, and the 435,000-member Boat Owners Association of the United States (BOAT/U.S.).

Users of the new service will dial WRN's "1-900-88-4(for)-NOAA" (1-900-884-6622) from their touch-tone telephones, and, knowing the telephone area code, be directed through an automated "voice response" menu that will allow them to select and listen to the ongoing NOAA Weather Radio broadcast serving their area of interest. The charge is $.98 a minute. About 70 coastal and lakeshore NOAA Weather Radio broadcasts for any port in the conterminous United States and selected inland sites are currently available. Eventually, major inland business and travel destinations will be incorporated into the system (and possibly selected sites in Alaska and Hawaii), bringing the total to around 125.

BOAT/U.S., the Nation's largest organization of recreational boaters, and a "Media Cooperator" with WRN is also making this service available through their own BOAT/U.S. Weather Watch "1-900" telephone system.

Emergency Broadcast System (EBS) Update—*Becker*

The FCC has solicited and received from industry and the Federal Government responses to its "Notice of Proposed Rule Making" (NPRM) and its "Further NPRM" on the upgrade of the EBS. The FCC is considering several types of technology and specific equipment for the upgrade, including the NWS's WRSAME.

The first major step in this process, after reviewing all responses, was having equipment vendors display their wares in a nationwide presentation at FCC headquarters in Washington, D.C., on December 11, 1992. Next, the FCC will hold comprehensive field tests of this equipment beginning in Denver, Colorado, in early spring. At the FCC's request, the NWS will install WRSAME in the Denver NOAA Weather Radio console. Approximately 20 broadcasters, cablecasters, and equipment companies will be participating in these tests.

The FCC expects to issue a "Report and Order" by the end of the year that will finalize the recommendations of the NPRM on the appropriate equipment. A phased-in deployment of the new EBS upgrade equipment would then begin in 1994.

The New International Observation and Forecast Formats—*Jerry Uecker and Esther McKay, Aviation Services Branch*

A monumental milestone in aviation meteorological history will be achieved on July 1, 1993, when a new international aviation code will be implemented globally. The NWS will begin using the new forecast (TAF) code for designated international airports on July 1, 1993. Additionally, the observations from approximately 250 "landing rights" airports will be converted from the existing Surface Airways code to the new observation (METAR) code. Then, in January 1996, all United States aviation observations and forecasts will convert to the new code.

There are differences between the United States and world-practiced code that result from observing practices. Some examples of these differences are: a 2-minute wind in the United States vs. a 10-minute mean; prevailing visibility in the United States vs. minimum sector visibility; cumulative cloud amounts in the United States vs. individual layers; and no CAVOK (Ceiling And Visibility OK) in the United States. Significantly, the venerable "CEILING" will no longer be included but will instead be implied/defined as the lowest broken or overcast layer or the vertical visibility. Also, partial obscuration will not be included in the code. The main visible differences are the use of feet for runway visual range and statute miles for visibility vs. meters worldwide.

In preparation for the new observation and forecast code, a completely new "key card" will be available. The **KEY to NEW INTERNATIONAL AERODROME FORECAST (TAF) and NEW AVIATION ROUTINE WEATHER REPORT (METAR)** describes the new code as it will appear in the United States. More detailed information is being prepared by the World Meteorological Organization (WMO), and it will contain the code as prescribed in WMO code manuals. WSOM Chapter D-37, International Aviation Aerodrome Forecasts, is currently being updated to reflect the new TAF code format and should be available for distribution by May 1993.

The new METAR and TAF will be implemented in the United States in the following manner.

1 July 1993

1. **METAR**

   a. The world aviation meteorology community will begin using the new METAR code.

   b. The United States will convert, through software, the surface airway observations to the new METAR for some 250 locations designated as "Landing Rights" airports (airports inbound international flights may use) in the United States. This conversion will be conducted at the Office of Systems Operations computers, and these observations will be made available internationally--there may be limited United States distribution.

2. **TAF**

   a. The world aviation meteorology community will begin using the new TAF code.

   b. The United States will prepare new TAFs for the locations for which we now prepare the old TAF.

3. **Other Forecasts**

International aviation forecasts, such as the area and route forecast (for parts of the North Atlantic and for the Gulf of Mexico/Caribbean area), will begin using the new METAR and TAF code terminology.

1 January 1996

1. **METAR and TAF**

The United States will change over completely to the new METAR and TAF code. There will no longer be Surface Airways Observations (SA/SAO) and forecasts (FT).

2. **Other Forecasts**

Domestic aviation forecasts, such as the area and route (TWEB) forecasts, will begin using the new METAR and TAF code terminology.

National Heavy Precipitation Workshop—*Gary Carter, Eastern Region Headquarters*

From November 16-20, 1992, the NWS held the Third National Heavy Precipitation Workshop at the Pittsburgh Airport Marriott Hotel in Coraopolis, Pennsylvania. The conference was attended by about 120 individuals representing both the public and private sectors and the operational and research communities. Other participants included various users of heavy precipitation forecasts as well as personnel from Federal, state, and local emergency management agencies, and three visiting scientists from the Peoples' Republic of China. All six NWS Regions were represented by at least one operational forecaster. The meeting proved to be an excellent forum for the discussion of issues and concerns related to the improved prediction of precipitation. The focus of one afternoon session was on a panel discussion in which 10 representatives from several user and emergency management groups explained how they have integrated precipitation observations and forecasts into their operations and stressed the need for the improved products and services in conjunction with the effort to modernize and restructure the NWS.

Four workshops were offered each day. These in-depth sessions, taught by experts and supported by sophisticated computer hardware, were the highlight of the Conference for many of the participants. These sessions were comprised of 3-hour small group workshops, with the opportunity for participants to be exposed to new ideas, data analysis techniques, computer processing and display applications, and forecasting methodology.

This Conference provided each participant with numerous opportunities to learn about and experience a wide range of issues, research developments, and operational applications associated with the improved prediction of heavy precipitation from the perspective of both those who produce and make use of the forecasts.

Preparedness Training for Local and State Officials—*Adams*

The NWS and FEMA have started to look at the need for additional severe weather and flood preparedness training for local and state officials. Discussions with state and local officials after recent disasters have highlighted this need.

To this end, Bill Alexander, Don Wernly, and I have held meetings with staff from the Emergency Management Institute at the National Emergency Training Center run by FEMA. They are reviewing joint emergency management training options for these hazards. They are to report back to Dr. Friday in mid-March. Their report will cover among other topics:

Training Options
Course Topics
Course Delivery Options
Resource Costs
Development and Delivery Time Frames
Target Student Populations
Agency Resource Cost Sharing Options

As we proceed in this endeavor, Bill and I will be contacting the regions and some field offices for their ideas and to review their progress. If you have any experiences in emergency management training or have ideas for topics or courses, please call me at (301) 713-0090.

Hurricane Andrew Natural Disaster Survey Report—*Alexander*

This document will be the most significant survey report ever to come out of the Office of Meteorology. The process of writing, compiling, editing, and reviewing the many pieces of input continues. A first draft should be out for review by the time you read this. A final report is anticipated before the 1993 hurricane season begins.

Tsunami—Hazard from the Sea—*Mark Koehn, Marine and Applied Services Branch*

Did you know that NWS has warning responsibility for more than weather-related events? Tsunamis, more commonly known as "tidal waves" (this is an incorrect term: tsunamis have nothing to do with the tides), are generated by a geophysical event, usually an earthquake, originating beneath or very near the ocean. Tsunami waves have tremendous wavelength and travel at speeds up to almost 600 miles an hour in the open ocean, depending on the water depth.

In 1948, after a 1946 Alaskan earthquake caused damage in Alaska and Hawaii, scientists from the Coast and Geodetic Survey (C&GS) recognized that a warning service for tsunamis could be provided to the public, utilizing seismic networks that could locate earthquakes in near real-time, tide measurement networks that could monitor the passage of these waves, and an extensive communication network to disseminate warnings to public officials in the warning areas. After NOAA was formed in 1970, the NWS assumed responsibility for the issuance of watches and warnings for destructive tsunamis occurring in the Pacific Basin. While tsunamis can occur in any ocean basin, the historical record shows that the Pacific Basin is by far the most geophysically active and, therefore, more susceptible to these occurrences.

The NWS Tsunami Warning Program consists primarily of two warning centers: the Pacific Tsunami Warning Center (PTWC), located in Ewa Beach, Hawaii, and the Alaska Tsunami Warning Center (ATWC), located in Palmer, Alaska. The two Centers are staffed by geophysicists and equipped with capabilities to receive and analyze real-time and near real-time seismic and tidal data from numerous stations. With these tools, earthquakes are rapidly measured and located to determine the tsunamigenic potential of an event; an historical database is accessed to relate past activity in the source area to tsunami generation potential; and warnings, watches, and information statements are issued as necessary to alert emergency managers to the potential threat associated with a particular earthquake.

The warning missions of the Tsunami Warning Centers is multifaceted. Both ATWC and PTWC serve as regional warning centers for events occurring within their areas of responsibility. ATWC's area includes Alaska, British Columbia, and the west coast of the United States, while PTWC issues regional warnings for earthquakes occurring in the Hawaiian Islands. PTWC also serves as an international warning center for member nations of the International Coordinating Group for the Tsunami Warning System in the Pacific

(ICG-ITSU), which is a body of the Intergovernmental Oceanographic Commission of the UNESCO (United Nations Educational, Scientific, and Cultural Organization). In this regard, PTWC is the operational center responsible for issuing Pacific Basin-wide tsunami watches and warnings to most Pacific Rim nations through an extensive communications system. However, owing to the rapid movement of tsunami waves and the time required to relay seismic data over thousands of miles, it is impossible for PTWC to issue timely warnings for local tsunamis that might occur in foreign countries, such as occurred in Nicaragua and Indonesia in 1992. Regional warning centers, such as ATWC, have been established in several regions of the Pacific to handle short-fuse warnings, and the development of additional centers is presently under discussion by ICG-ITSU and the nations in those regions.

Update on WSOM Chapters—*Berger*

WSOM CHAPTERS	STATUS
C-01, Basic/Public Weather Service Program	A draft will be sent out for review this summer or fall. Approval expected next winter.
Appendix A, Zone Forecast Area Maps, to C-11, Zone and Local Forecasts	Revised Appendix will be issued in October 1993 for zone reconfiguration.
C-12, 6- to 10-Day, 30-Day, and 90-Day Outlooks	A second draft will be sent out for review by early spring 1993. Approval is expected this summer.
OML to C-21, Local and Regional Statements, Summaries, and Tables	The OML has been reviewed by our agency and the National Weather Service Employees Organization and is awaiting final signature.
C-40, Severe Local Storm Warnings	The chapter will be sent out for a second review in late winter. A mid-summer approval is planned.
OML to C-41, Hurricane Warnings	Incorporating concerns from hurricane conferences. Draft will be sent out this spring. Approval is expected by beginning of hurricane season.
C-45, Meteorological Discussion Messages and Forecast Coordination Guidelines	A second draft will be sent out for review by early spring. Approval is expected this summer.
C-47, County Warning Areas	Approval expected by early spring. Necessary updates of county warning area changes will continue to be sent as needed by letter, National Weather Wire Service, and the Family of Services.
OML to C-49, Warning Coordination and Hazard Awareness Program	An OML will be issued this spring to update section 6, Coordination During Transition to a Modernized NWS, and section 7.2, Non-NWS Material Requests.
F-42, Storm Data	A second draft will be sent out by late winter. However, implementation is not expected until July 1993.

WMO Secretary-General's Message on the Occasion of World International Decade for Natural Disaster Reduction (IDNDR) DAY—*Charles Sprinkle, Aviation Services Branch*

"Natural Disaster Reduction and Sustainable Development" was the theme of this year's World IDNDR Day which was celebrated on October 14, 1992. The tremendous impact of tropical cyclones, floods, droughts, earthquakes, and volcanoes has been sharply felt in many places around the world again during the year. Floods in China and France, drought in Southern Africa, hurricanes in southeastern United States, tropical cyclones in Bangladesh are but a few examples of the experience of this past year. These disasters simply underline the urgent need for the world community of nations to accomplish the objectives of the IDNDR. All too often the development of national economies have been seriously set back by the devastation caused by natural disasters.

Today, the application of science and technology offers the possibility of avoiding the worst effects of many of these events, particularly those related to weather, water, and climate. Early warning capability depends on the careful and continuous collection of data from networks of instruments distributed around the world, from weather radars and from satellites. These data are then analyzed and used in forecast models to provide warnings to civil defense bodies, the police, and to the general public. Such warnings allow action to be taken well in advance of the occurrence of hurricanes or floods. Lives can be saved and property protected against damage where such forecast systems are operational. These same data collected over a number of years can be analyzed to design structures which can withstand storms and tidal surges and those which will allow floods to pass safely. This information can also be used for a range of other developmental purposes. Unfortunately, in many parts of the world, the basic data networks and infrastructure necessary to provide forecast and warning systems have not been implemented.

Experience shows that in countries where well developed warning systems exist, such as Japan and the United States, every yen or dollar spent on protection against natural disasters can save many hundreds or even millions that would have to be spent after one had hit. Yet many governments are unable to benefit from the advantages of maintaining and improving the capabilities of their Meteorological and Hydrological Services to counter natural disasters, despite the very favorable cost/benefit ratios that are known to exist. Much larger sums of money are therefore required to be spent in the aftermath of a storm rather than in predicting its arrival and taking protective action. These expenditures are usually enormous by comparison with the provisions made to forestall the effects of a disaster.

This year's theme highlighted the fact that a single cyclone or the eruption of a volcano can set back the development of a country like Bangladesh or the Philippines by several years. Equally dramatic are the harrowing effects of drought and decertification that have plagued the weak economies of many African countries, particularly in the current drought-stricken areas of Eastern and Southern Africa. Countries prone to natural disasters but without effective warning capabilities continually suffer setbacks and make only slow progress towards sustainable development. Moreover, buildings, bridges, dams and spillways, river draining works, and similar structures often lack the proper scientific basis for their designs, and the impact of a natural disaster may be amplified by the failure of such structures.

The IDNDR (which started on January 1, 1990) has, as one of its major aims, to change attitudes towards natural disasters. It is hoped that governments would seriously face the challenges of the IDNDR. The opportunity is now for the world community of nations to organize the needed observing systems and data processing facilities so that all parts of the world enjoy early warning of storms and floods. The WMO, a specialized agency of the United Nations, supports national Meteorological and Hydrological Services in their contributions towards sustainable development. WMO has played its part in shaping the IDNDR and will continue to promote the Decade through the range of activities it undertakes.

Preparedness Programs and Warnings for Special Populations—*Adams*

With the passage and enactment of the Americans with Disabilities Act, we are taking a hard look at how the NWS provides preparedness and warning information to those who have hearing, sight, or mobility impairments. Research estimates there are between 20 and 22 **million** people in the United States who are hearing impaired. This represents 9 to 10 percent of the general population. Currently, staff from the Office of Meteorology and the Office of Systems Operations are jointly exploring options for enhanced warning capabilities for the hearing impaired in the modernized Weather Forecast Offices. Dr. Friday recently sent out a memorandum asking each field office to focus attention on improving warning communication for special populations. The Warning and Forecast Branch asked the regions to identify field office initiatives in this area. The responses we have received show a wide range of innovation. These include:

Education for Special Populations

Weather Service Forecast Office (WSFO) San Juan, Puerto Rico—Ada Monzon, the former WPM, has been working with the San Juan Civil Defense, the commonwealth Department of Education, and schools for children with disabilities to revise their preparedness plans for severe weather and flooding. This has expanded to include training for the teachers and staff at these schools. In addition, the Program of Special Education has started to transcribe a brochure on hurricanes into Braille for the blind.

WSFO Raleigh, North Carolina—WPM Rod Gonski reports of a training initiative with the staff at a local community for mentally impaired. This training focuses on severe weather preparedness for this special population community. Rod has also worked with a local special needs hospital on their severe weather preparedness plans.

Media Coordination of Warnings for the Deaf

WSFO Pittsburgh, Pennsylvania—In the late 1970's, the office worked to coordinate the use of a standard set of symbols for weather and flood watches and warnings with local television stations and the Pittsburgh Hearing and Speech Services. While no standardized set of symbols was adopted, all television stations adopted their own set of symbols to visually alert viewers to watches and warnings.

Telecommunications Device for the Deaf (TDD) Warnings

WSO Fort Wayne, Indiana—This office has a unique Personal Computer (PC) system that provides access for the deaf community to 26 forecast products. The system was funded by the local Sertoma Club several years ago. Tandy Corporation provided the computer at cost. Bill Cary (now at WSFO Indianapolis) wrote the software, and Fred Galster put the hardware together. Both Bill and the local Sertoma Club have received national recognition for their efforts to create this system for the hearing impaired. The system is accessed by dialing into the computer at the WSO. This menu-driven system receives about 115 calls a day. Recurring costs are paid by the Sertoma Club.

WSO Toledo, Ohio—The local hearing-impaired community purchased a TDD with memory for the office. The staff type local forecasts into the TDD's memory. Hearing-impaired callers call the TDD number and automatically receive the local forecast. The system averages 30 to 40 calls a month. The local community pays all recurring costs and maintains the system.

Alaska Region—Beginning in June of 1992, "Relay Alaska" implemented an indirect TDD service between the NWS local offices and hearing-impaired citizens. Local residents call "Relay Alaska" using their TDD and request NWS forecast information. "Relay Alaska" then makes a voice call to the local NWS office to get the requested information. "Relay Alaska" then provides the forecast to the caller over the TDD. Such telephone relay systems are in place in most states. Some have computerized bulletin boards with local forecast products.

Visual Watches and Warnings

WSO Cincinnati, Ohio—In conjunction with the Greater Cincinnati Northern Kentucky Police Association and the Greater Cincinnati Mediation Council for the Deaf, Beverly Poole is working to provide a system for visual notification of hazardous weather and flooding for the hearing-impaired community (see article on page 17). Both a system of flags at public safety facilities and on vehicles and a set of weather information cards are being implemented.

Special Warning Call to Action

The Canadians include a special call to action for citizens to look after friends and neighbors. Include a statement, such as the following, in all your watches and warnings:

> "Residents in the watch/warning area are asked to check on neighbors, friends, and family who are elderly or hearing impaired to make sure they have received this information."

This is not an exhaustive list of innovative warning programs for special populations. The hope is that these examples have given you ideas for programs in your area. Listed below are several ideas to keep in mind.

- ✓ Be creative!
- ✓ Contact local special populations organizations and agencies to get their ideas and enlist their support for various projects. Get their ideas for materials and information to include in your awareness week activities.
- ✓ Look for sources of creative funding. Local civic organizations may be looking for projects like this. Local companies may donate resources for a broadly supported highly visible community service project.
- ✓ Contact local emergency management agencies to exchange ideas and get their support.
- ✓ Remember a joint, broadly supported project is more likely to succeed and keep going.
- ✓ Let the region know of your progress. Have them contact the Warning and Forecast Branch so we can spread your ideas with others working in this area.

"A Mariner's Guide to Marine Weather Services"—*Robert Jacobson, Marine and Applied Services Branch*

HOT OFF THE PRESS!! The Marine and Applied Services Branch has recently released a new brochure: "A Mariner's Guide To Marine Weather Services" (NOAA PA 92056). Similar to the "Aviator's Guide To Aviation Weather Services," the new brochure explains through examples the various weather products available to mariners. It also discusses many of the terms used by marine forecasters, outlines the various dissemination networks used to get the products to the mariners, identifies other useful marine information sources, and looks ahead to the modernized NWS. Interested users should look for these at their next boat show or contact their local NWS office.

Update on New Publications—*Kremkau/Dombrowsky*

In January 1993, supplies of the new **"Flash Floods and Floods...The Awesome Power" (NOAA PA 92050)** and **"Tornadoes...Nature's Most Violent Storms" (NOAA PA 92052)** were delivered to the National Logistics Supply Center (NLSC) in Kansas City, Missouri. These in-depth brochures may now be ordered from NLSC.

In addition, each in-depth brochure has a tri-fold pamphlet which details safety tips relevant to each of the brochures (listed below). These, too, are available from NLSC. Through our tri-agency efforts, additional supplies of these brochures will be made available through FEMA and the American Red Cross. We will provide negatives to both FEMA and the American Red Cross which will use to print many more copies for their own agencies. This working arrangement has been extremely successful. This was well documented with the winter storm brochure. To date, the American Red Cross has printed and distributed 860,000 copies of this brochure.

NOAA PA 92057	Red Cross - Are You Ready for a Tornado?
NOAA PA 92058	Red Cross - Are You Ready for a Tornado? (Spanish)
NOAA PA 92059	Red Cross - Are You Ready for a Flood or a Flash Flood?
NOAA PA 92060	Red Cross - Are You Ready for a Flood or a Flash Flood? (Spanish)
NOAA PA 92061	Red Cross Poster - Are You Ready for a Tomado? (English/Spanish)
NOAA PA 92062	Red Cross Poster - Are You Ready for a Flood or a Flash Flood? (E/S)

In December 1992, we distributed to the regions over 300 copies of the **"Winter Storm...The Deceptive Killers" Slide Set and Presenter's Guide**. Each of the NWS field offices should have received at least one set by now. Work continues on the development of the tornado and flash flood slide sets and presenter's guides. These packages could possibly be ready by summer. We currently have Roger Stairs from the Pittsburgh WSFO working on the flash flood package, and preparing the tornado slide set and guide is Bill Bunting, WCM at Kansas City, Missouri. Bill has taken on another project as well--besides his new duties as the new WCM at Kansas City--which is finalizing the thunderstorm and lightning brochure. Bill is coordinating this effort with Todd Heitkamp, WPM Focal Point at WSFO Denver. Together they hope to have a draft sent out for review to the regions by spring 1993.

Two individuals have been selected to develop the new **hurricane package**, consisting of a 12-page, 4-color, in-depth brochure and slide set with presenter's guide. They are: Mary Jo Parker, WPM WSFO Columbia, South Carolina, and Max Mayfield, National Hurricane Center. Mary Jo will travel to Miami in March to work with Max to start laying out ideas for the hurricane brochure. Later this summer, Mary Jo and Max will travel to WSH for a week at a time to finalized it. The brochure will be printed in time for the 1994 hurricane season.

Should you have any questions concerning these brochures and their availability, please contact Linda Kremkau or Rainer Dombrowsky at (301) 713-0090.

Addressing the Weather Awareness Needs of Special Populations Highlights the Cincinnati Hearing Impaired Project—*Beverly A. Poole, MIC WSO Cincinnati*

On December 9, 1992, key National Weather Service personnel met in Washington, DC, for the purpose of addressing how our Agency issues warnings for people of special needs and to highlight an innovative approach currently in place in Cincinnati, Ohio. Attending from WSH were: Don Wernly, Chief, Warning and Forecast Branch; Chris Adams, Senior Social Scientist; Therese Pierce, OM NEXRAD Meteorologist; Ed Gross, Chief, Industrial Meteorological Staff; and Gloria Walker, NWS EEO Manager. Representing the Eastern Region of the NWS were: Russell A. Dorr, Jr., Chief, Meteorological Services Division; and Beverly A. Poole, MIC WSO Cincinnati. In addition to NWS attendance, representatives from the National Chapter of the American Red Cross and FEMA shared in the exchange of ideas. The presentation, focusing on the Cincinnati Project for the Hearing Impaired, was led by Col. Rodney Jackson, assisted by Clermont County, Ohio, Deputy Sheriff Vance Summerlin. Colonel Jackson is the Chairman of the Greater Cincinnati Mediation Council for the Deaf and President of the Greater Cincinnati Northern Kentucky Police Association. Deputy Summerlin serves as the Vice President of the Greater Cincinnati Northern Kentucky Police Association.

For example, in the Cincinnati area, the deaf community totals 85,000 people. Have you ever wondered...how does the deaf community receive a warning at night when they are sleeping? The Greater Cincinnati Mediation Council for The Deaf in cooperation with the Greater Cincinnati Northern Kentucky Police Association has developed an idea that will serve to notify the hearing impaired of potentially hazardous weather conditions.

With the cooperation from the police and fire services, a universal 3' x 5' flag with the American Sign Language symbol "TO WARN" printed on it for the deaf will be implemented. When severe storms threaten, police and fire stations will utilize a procedure to have the **Universal Weather Alert Notification Flag for the Deaf** raised by station personnel. It will provide an instant sight alert that a severe weather threat exists as determined by the NWS.

To complement the larger flag, a duplicate 7" x 10-1/2" flag is attached to a removable magnetic mount on the front of police vehicles. As the officers patrol the community, it will provide instant notification that there is a severe weather threat. At the present time, this procedure is the only known means to directly alert the deaf to weather emergencies and life-threatening natural disasters while they are away from their residences in the United States.

With the Cincinnati Tri-State emphasis on WEATHER AWARENESS, a Greater Cincinnati Northern Kentucky Police Association representative monitors NOAA Weather Radio 24 hours a day when storms are a possibility. A flag pole was installed at the Police Association's Center where the Universal Weather Alert Notification Flag for the Deaf is raised for weather awareness for potentially severe events.

Another innovative approach is the **MODIFIED WEATHER ALERT RADIO FOR THE DEAF**. Instead of the traditional emergency alert tone, the audible tone activates a pillow vibrator at the onset of a weather warning from the NWS. The deaf person would then go to another source, such as a television icon symbol, a Telecommunication Device for the Deaf (TDD), or a neighbor for additional information. Without this unit, the deaf person could literally sleep through a possible devastating storm. To date, 116 presentations have been conducted in the Cincinnati Tri-State area to spread the word about the availability of the Modified NOAA Weather Radio.

Weather emergency sign language card sets with weather safety information on them are being distributed to metropolitan Cincinnati Mall Information Centers. These will be used to communicate with deaf

shoppers. A communication guide is being developed for police officers that includes important weather emergency information--in an effort to increase the officer's communication skills with the hearing-impaired community.

The outcome of Colonel Jackson's presentation was very successful. One of the highlights was: a TRI-AGENCY ENDORSEMENT, supported by the NWS, the American Red Cross, and FEMA, is being drawn up in National support for the Flag Awareness Campaign for the Hearing-Impaired Community and the Modified NOAA Weather Radio.

As spring severe weather and SKYWARN training campaigns are launched for 1993, carefully consider if you are addressing the needs of special populations. A challenge is made to you to re-examine your awareness campaigns and reach out to groups, such as the hearing impaired, that never have been directly involved in our teaching before. An easy place to start is to try to find a "signer," known to the deaf community as an interpreter/transliterator, for your next spotter training or preparedness seminar and get the word out that this service will be available.

Do you have a school for the deaf or a local speech and hearing institute in your county warning area? Make an effort to share information or pamphlets with them on the Cincinnati Flag Program or the Modified NOAA Weather Radio. Learn more about how they handle a weather emergency. This new found information may help to redirect and rechannel some of your preparedness efforts.

Severe weather affects everyone--which includes many with special needs. Our warnings do little good if we cannot ***communicate*** to those threatened. ***Broaden your 1993 preparedness horizons this spring! Think ahead to actively include the special needs populations.*** Their weather safety will be the gain of our efforts! For more information on these programs, contact Beverly Poole, MIC, Cincinnati WSO, P.O. Box 75296, Cincinnati, Ohio, 45275, TEL: (606) 292-3101.

American Red Cross Video "Surviving the Cold" Re-released—*Rocky Lopes, Disaster Services, American Red Cross National Headquarters*

The 16-minute video entitled "Surviving the Cold" has been re-released by the American Red Cross. This video gives preparedness tips for cold weather situations and can be used to complement a comprehensive winter storm education effort. The video was originally produced in 1984 but remains accurate.

The video is available in both 3/4" U-matic and 1/2" VHS formats. Some people use the 3/4" video to provide to local cable operating companies for use on public access channels. The American Red Cross has provided the blanket authorization for using the video on cable or broadcast TV provided the American Red Cross is given credit for producing the video and the video is used in its complete form (that is, the video may not be edited, shortened, or modified in any way).

You can order your copy of the video from your local Red Cross chapter. It's helpful to provide the stock number of the video when placing an order.

1/2" VHS format, stock number 321708, price: $5.03 each
3/4" U-matic format, stock number 321709, price: $15.59 each

The video should be used as a part of an overall educational effort. Print materials that remain available through the NLSC Warehouse in Kansas City include:

"Are You Ready for a Winter Storm?" 4-color, 2-page pamphlet—NOAA PA 91003
"Esta preparado para una tormenta de invierno" (Spanish version)—NOAA PA 91004
"Winter Storms...The Deceptive Killers" 4-color, 12-page, in-depth brochure—NOAA PA 91002
"Are You Ready for a Winter Storm?" Poster—NOAA PA 91005

The suggested strategy for using these materials is to make a personal presentation, encouraging preparedness by first raising awareness of winter storms and their general effects. This is best done by distributing only the 2-page pamphlet and using the poster. Once awareness is raised, some people will ask for more information. When they ask for more information, they are ready for the 12-page, in-depth preparedness brochure. Studies on how the public uses these materials show that giving out the in-depth brochure first or in large quantities does not make the best use of the materials; if they ask for more information, then they are ready to read it.

Transferring National Coalition Successes to the Local Level—*Rocky Lopes, Disaster Services, American Red Cross National Headquarters*

The coalition among the NWS, the American Red Cross, and the FEMA Family Protection Program that was energized in the summer of 1991 has proven to be extremely successful and beneficial for the three organizations in a very short time.

The original purpose of forming the coalition was to coordinate messages and to seek resources for development of educational materials. The coalition has grown to become a partnership beyond that which we had hoped and has resulted in the following.

- Consistency of messages for public information and education materials among new items developed by all three organizations.

- Clarity of purpose for materials--that is, materials are positive, clear, concise, and tells people what they need to know to prepare and respond safely.

- New materials are bright, user-friendly, and can compete well in today's information-overloaded society.

- The quality of the materials has resulted in each organization gaining further respect and credibility among a more discerning public.

The national coalition obviously impacts on local NWS offices, Red Cross chapters, and emergency management agencies. Our goal at the national level is to develop and provide materials that are either identical or at least consistent with one another. We also have a goal to foster collaboration at the local level. We feel we do this well by having established such a positive working relationship that serves as a model, is quite productive, and can be replicated locally.

The success of any coalition is dependent on the people involved. I hold each of my colleagues from the NWS and FEMA in the highest esteem, and they have earned my deep respect. Each person listens, cooperates, shares, and is sensitive to the needs and concerns of the others--both on a personal and organizational level. This is particularly true when new methods for doing work are created by the coalition and approval is required by administrators who are unaccustomed to nontraditional development activities.

The level of trust and respect shared by coalition members is earned from ongoing telephone and personal meetings where we listen, discuss, and review each other's work. It's a win-win-win for all of us; there in no "turf." We share a common goal: that people need to get accurate and positive information about disasters that will result in increased preparedness activities and safe behaviors during and after disasters.

If this national coalition causes local representatives from the NWS, Red Cross, and emergency management to have to work more closely together, great! We know that's not always the case in all communities nationwide, but we hope past differences can be put aside. The welfare of the American people is at stake. Get together! Share! Discuss your common goals and plan together on how you can help people prepare for, stay safe during, and respond properly to disaster events of any magnitude.

While we are working very well on the national level, we depend on you to implement our work locally--where the rubber meets the road, so to speak. Please let us know how our coalition can help you locally.

FEMA's Family Protection Program—*Wayne Blanchard, Family Protection Program Manager, FEMA*

FEMA's Family Protection Program has joined with the National Exploring Division of the Boy Scouts of America to create a family disaster preparedness program. The American Red Cross and the Prince George's County, Maryland, Office of Emergency Preparedness are also active partners in this national initiative to involve Explorers in disaster preparedness activities.

Exploring is the young adult program of the Boy Scouts of America, providing 14- to 20-year-old men and women with programs designed to build character, promote citizenship, and develop personal and mental fitness. Local groups initiate Exploring posts by matching resources within their own organization to the interests of young people in the surrounding community.

Family disaster preparedness Exploring posts will provide young men and women with an opportunity to gain professional skills while helping people in their community learn about hazards and take steps to prepare. Emphasis will be placed on educational efforts targeted toward elementary school-aged children. To support this objective, FEMA and the American Red Cross will create materials for this age group, including a short video and a coloring book.

Any organization with an interest in disaster preparedness could sponsor a family disaster preparedness Exploring post or incorporate elements of the program into an existing post's agenda. For example, a local NWS office could initiate a post to serve their community, or a Fire Service Exploring post could organize a disaster preparedness activity as a community service project.

A family disaster preparedness Exploring guidebook is being developed to assist post advisors. FEMA welcomes any ideas or suggestions you may have regarding this project or the development of disaster preparedness materials for children. Please send your comments to Dr. B. Wayne Blanchard, Family Protection Program Manager, 500 C Street, SW, Room 602, Washington, DC, 20472.

Natural Disaster Television Project—*Barbara Valentino, National Academy of Sciences*

One of the principle activities for the next Disaster Awareness Day--October 13, 1993--will be a program on PBS that focuses on "Are You Prepared." NOAA, FEMA, U.S. Geological Survey, and the National Academy of Sciences, along with representatives from state and local governments, are working together to develop a 1-hour public TV show, focusing on natural hazard reduction. A script is being developed by a working group consisting of members of the agencies. We will keep you informed as this project develops.

NWS Field Offices and Private Sector Initiatives—*Kremkau*

Below are excellent examples of how the NWS field offices work with the local communities, corporations, and/or state governments to promote natural hazard safety information. We encourage all WPM's to pursue this avenue.

- **Lightning Safety Publication**—*Todd Heitkamp, WPM, WSFO Denver, Colorado*

  During the summer months, recreational activity in the mountains increases dramatically due to the popularity of mountain biking, hiking, fishing, and camping. On any given day in the summer, thousands of people are in the mountains, and as anyone knows that has ever visited Colorado during the summer, thunderstorms are almost an every day occurrence. Therefore, the people that are in the mountains need to know what to do before lightning occurs as well as what to do during a thunderstorm.

  With this in mind, a brochure was developed dealing with lightning and mountain weather a number of years ago by forecasters at the Denver WSFO in cooperation with the Colorado Mountain Club. Upon review, I decided that this brochure was in need of rewriting and updating. So, with the help

from a fellow meteorologist, Wayne Ruff, we secured funding from the Colorado Mountain Club and REI (Recreation Equipment, Inc.). In the spring of 1992, we began to totally rewrite the material and include new statistics. The brochure discusses thunderstorm development, lightning initiation, first aid, and lightning safety. By late summer, it was completed and sent to the printer. Over 10,000 copies were printed and distributed to everyone involved. They are available to the public at local REI outlets and from the Colorado Mountain Club and the WSFO in Denver. It was a long process, but one that was well worth the effort based on early comments received by outdoor enthusiasts!

- **NOAA Weather Radio and the Texas Farm Bureau**—*Mario Valverde, WPM, WSFO San Antonio, Texas*

I received a copy of the NOAA Weather Radio brochure that the Farm Bureau produced for Arkansas. I thought, why not one for Texas. I contacted a local agent and asked how we could do the same thing. He referred me to the district office in Waco, Texas, and informed me to contact the Director of Information, Gene Hall. After a phone conversation with Mr. Hall, I faxed him a copy of the Arkansas brochure. The next day I called Mr. Hall to get his feedback. He thought it would be a good public service project for them and asked me to provide the information needed for Texas. A few days later, I sent Mr. Hall a list of all the transmitter sites in Texas, the station call signs, the frequency used, and the counties served by each site. I also sent him a regular NOAA Weather Radio brochure. I enclosed a map showing the area covered by NOAA Weather Radio in Texas, with a note saying "most of the population in Texas is covered by NOAA Weather Radio broadcasts although there are large areas with no coverage." About 2 months later, Mr. Hall called me back and said that their graphics people had worked out the brochure. The Farm Bureau printed 10,000 copies; 6,000 copies were given to our office. The Farm Bureau sent copies to each of their offices in Texas. We received the brochures in January and sent approximately 2,000 copies to the other WSFO in Texas. A few days later, I called Mr. Hall to say thank you. He offered to print more of the pamphlets when needed. The handout is attractive and informative. I'm sure it will go a long way toward promoting NOAA Weather Radio in Texas and easing the strain on the supply of NOAA Weather Radio brochures available at NLSC.

- **Bellevue, Washington, Winter Brochure**—*Christopher Hill, Area Manager, WSFO Washington*

The city of Bellevue, Washington, just across Lake Washington from Seattle, recently produced an excellent winter safety brochure for its 100,000 or so citizens.

WSFO Seattle has worked very closely with Bellevue Emergency Preparedness Manager, Lyn Gross, on several occasions during the past year. For example, at monthly King County emergency services meetings, I have given MAR presentations, Rob Doherty (WPM) has given presentations on NWS warnings and forecasts, and Doug McDonnal, Service Hydrologist, has discussed flooding. We worked with Ms. Gross on the Washington Emergency Broadcast System Plan at a regional EBS Conference and later on the Central Puget Sound Emergency Broadcast System Operating Plan. In addition, WSFO Seattle has worked with Lyn and her staff on other such diverse issues as exploring ways to easily communicate NWS fire weather forecasts to fire departments which serve urban-wildland interfaces and developing cable television override policies and procedures.

Thus, when the Emergency Preparedness Division of the Bellevue Fire Department had funds remaining at the end of their fiscal year, it was not serendipitous that Ms. Gross and her staff chose to spend the money on brochures that would assist NWS preparedness efforts. The close working relationship and frequent contacts with the NWS had made Ms. Gross and her staff sensitive to the importance of winter weather preparedness.

WSO Midland's Preparedness Efforts—*Walter R. Anderson, MIC (AM), and Gary Woodall, WPM, WSO Midland, Texas*

Ms. Karen Fago, Secretary at WSO Midland, Texas, has been actively involved in preparedness efforts over the past several years. She has engaged in two significant preparedness projects, both of which are nearing completion. The first project is known as a "Thunder Bucket," which is a 5-gallon bucket with emergency supplies one might need if a tornado or other disaster were to threaten. A NOAA Weather Radio, prescription medicine, a first-aid kit, and snack foods are some of the items included in the bucket. The staff at WSO Midland have demonstrated the bucket at several preparedness sessions and have found the bucket especially effective with children.

The second project is a tornado safety booklet geared toward elementary school students. As you are aware, this is an area in which current NWS publications are lacking. Ms. Fago is working with numerous local agencies in the Midland area to secure printing and distribution of the guide to local schools.

National Safety Council's "Accident Facts"—*Kremkau*

The National Safety Council recently sent our office a copy of their 1992 edition of "Accident Facts." "Accident Facts," prepared by the Statistics Department under the direction of Alan F. Hoskin, is the Council's annual statistical report on accidental deaths, injuries, and costs. The report notes that the accidental death toll in 1991 was the lowest in nearly 70 years. For price and ordering information, please write to Customer Service, National Safety Council, 1121 Spring Lake Drive, Itasca, Illinois, 60143, TEL: 1-800-621-7619.

FEMA and the American Red Cross' New Publications—*C.M. "Bud" Schauerte, Federal Insurance Administrator, and Grant C. Peterson, Associate Director, FEMA*

FEMA and the American Red Cross have jointly produced two new publications to assist in efforts to help residents of recently flooded areas during their clean-up and repair process. Within FEMA, these publications represent a cooperative effort between the Federal Insurance Administrator and the Associate Director for State and Local Programs and Support and our respective staffs.

> ***"After a Flood: The First Steps"*** (FEMA order #L-198) is a 3-color brochure which gives essential safety information appropriate immediately after a flood has happened and provides suggestions on how to stay healthy after a flood. It also suggests ways to get help from the Red Cross and other public and private organizations. It is designed for immediate use by anyone who has been affected by a flood and is intended for wide distribution. If your organization is likely to respond to flood disasters, you should have a quantity of the brochures on hand for immediate distribution after a flood.
>
> ***"Repairing Your Flooded Home"*** (FEMA order #FEMA-234) is an in-depth, 60-page guide and gives step-by-step approach to performing clean-up tasks and simple repairs to homes that have been flooded. The guide should be given only to those whose homes have been affected by the flood and who are likely to clean up and repair their home themselves.

When ordering, it is best to place orders through your state's Office of Emergency Management and the appropriate FEMA Regional Office. Both items may also be obtained by writing to: FEMA Publications, P.O. Box 70274, Washington, DC, 20024. If you have any questions concerning these publications, please contact Elizabeth Lemersal of FEMA's Federal Insurance Administration at (202) 646-4396.

Sky Awareness Week Slated for April 25-May 1, 1993—*Barbara Levine, THINK WEATHER, Inc.*

Sky Awareness Week 1993 will be held during the week of April 25-May 1, 1993. Established in 1991 as a national celebration of the sky, **Sky Awareness Week** continues to grow. One state issued a proclamation in 1991; twenty states participated in 1992. As of late January 1993, six states (Iowa, Illinois, Ohio, Alabama, Maryland, and New Jersey) had issued proclamations for 1993. These organizations--the National Weather Association, the National Science Teachers Association, The Weather Channel, and the Triangle Coalition for Science and Technology--strongly support this educational initiative.

The thrust of **Sky Awareness Week 1993** is fourfold and provides opportunities for teachers, students, parents, nature center staff, television meteorologists, and others to look toward the sky. In doing so, they can (1) learn how to read the sky (first by learning cloud types and their weather, and then by forecasting from them); (2) understand sky processes (water cycle, sky colors, rainbows); (3) appreciate the sky's natural beauty; and (4) protect the sky as a natural resource (it's the only one we have). **Sky Awareness Week** falls during the same week as National Science and Technology Week and around the same time as Earth Day and other events focusing on our planet and its environment.

Sky Awareness Week encourages people across the Nation to notice the myriad of cloud types above, ranging from fair weather cumulus puffs to high-flying cirrus streamers. Late spring is a time when most parts of the country will experience their most dramatic and changeable skies. By watching clouds, people can make their own weather forecasts, just as farmers and explorers used to do. They will also see that the sky is not the same color blue every day. These changes, albeit subtle, are often tied to the movement of weather systems and accumulations and transport of atmospheric pollutants. The lists of "things" in the sky is almost boundless (consider hot air balloons, birds, rainbows, airplanes, and the sun and stars). Even with our busy schedules, people of all ages can appreciate the sky and gain an upbeat feeling just by LOOKING UP!

Sky Awareness Week is not designed to replace your statewide severe weather or flash flood awareness week. Rather, it provides an opportunity to supplement them, reinforcing severe weather concepts, especially those tied to sky watching.

Last year, several NWS offices used the article which appeared in the AWARE Report to issue public information statements about **Sky Awareness Week**. WSFO Raleigh, North Carolina, tied **Sky Awareness Week** into its statewide teacher-based data collection initiative. WSFO Portland, Oregon, blended its efforts into an open house program. In Iowa, three television meteorologists and a consulting meteorologist cooperated in holding a local Sky Awareness Day.

This year, one state organizer (tied to a local American Meteorological Society [AMS] Chapter) plans to use **Sky Awareness Week** as an opportunity to expose students and the general community about the meteorology programs available at his university. Several television meteorologists have noted that they hope to have young students submit sky pictures for on-air display. And at least one television meteorologist is contemplating an evening weathercast from a hot air balloon.

Local NWS offices can help make this celebration a success. Publicize it in your NOAA Weather Radio broadcasts and with special media information statements. Work with television meteorologists, newspapers, local AMS chapters, and environmental organizations, too. Highlight a cloud or a particular aspect of the sky (enjoyment, protection, severe weather sky awareness) each day. Include cloud watching as a theme during your school visits. Distribute copies of your state's **Sky Awareness Week** proclamation. And let us and the celebration's organizer know what you are doing. In this way, we can share ideas and enhance the celebration.

Sky Awareness Week 1993 is being organized by THINK WEATHER, Inc., 1522 Baylor Avenue, Rockville, Maryland, 20850 (301-762-SNOW). A 10-page guide entitled, "101 Ways to Celebrate Sky Awareness Week," is available by sending $3.00 to cover cost of printing and mailing. THINK WEATHER, Inc., is also preparing a more comprehensive list of ideas describing how local sponsors, NWS offices, AMS chapters, television meteorologists and others can capitalize on this celebration. Send a SASE (52 cents) to request this.

HAZARDOUS WEATHER AWARENESS WEEKS

State	Campaign	Date	Drill
Eastern Region			
North Carolina	Severe Weather	Feb. 21-27, 1993	Feb. 24
South Carolina	Severe Weather	Feb. 21-27	
Ohio	Tornado	Mar. 21-27	
New Jersey	Hazard Weather	Mar. 21-27	
New York	Hazard Weather	Mar. 21-27	
Maryland/Virginia/DC	Severe Weather	Mar. 21-27	
Ohio	Flood	May 2-8	
North Carolina	Flood	May 23-29	
South Carolina	Hurricane	May or June	
North Carolina	Hurricane	July 4-10	
Central Region			
Michigan	Flood	Feb. 21-27, 1993	
Illinois	Tornado/Severe Weather	Mar. 8-12	Mar. 9
Kansas	Tornado/Severe Weather	Mar. 8-12	Mar. 9
Missouri	Tornado/Severe Weather	Mar. 8-12	Mar. 9
Kentucky	Tornado/Severe Weather	Mar. 14-20	
Indiana	Tornado/Severe Weather	Mar. 21-27	Mar. 25
Nebraska	Tornado/Severe Weather	Mar. 22-26	Mar. 24
Michigan	Tornado/Severe Weather	Mar. 28-Apr. 3	Mar. 31
Minnesota	Tornado/Severe Weather	Mar. 28-Apr. 3	Apr. 1
Wisconsin	Tornado/Severe Weather	Mar. 28-Apr. 3	Apr. 1
Wyoming	Tornado/Severe Weather	Apr. 5-9	Apr. 6
South Dakota	Tornado/Severe Weather	Apr. 19-23	Apr. 21
Southern Region			
Mississippi	Severe Weather	Feb. 8-12, 1993	
Alabama	Severe Weather	Feb. 8-12	
Louisiana	Severe Weather	Feb. 8-14	
Florida	Severe Weather	Feb. 21-27	
Georgia	Severe Weather	Feb. 22-26	
Arizona	Severe Weather	Feb. 28-Mar. 6	
Tennessee	Severe Weather	Feb. 28-Mar. 6	
Oklahoma	Severe Weather	Mar. 1-5	
Texas	Severe Weather	Mar. 7-13	
New Mexico	Severe Weather	April 12-16	
Alabama	Hurricane	May 24-28	
Texas	Hurricane	June 1-4	
Puerto Rico	Hurricane	June 7-11	
New Mexico	Flash Flood	June 14-18	
Pacific Region			
Hawaii	Hurricane	June 1993	

PUBLICATIONS AND AUDIOVISUALS

Other NWS Hazard Awareness Materials—*Kremkau*

- The following NWS publications have been approved for reprinting--expect delivery to NLSC by mid-March 1993.

Spotter's Guide	NOAA PA 81011	100,000 copies
Watch Out, Storms Ahead	NOAA PA 82004	50,000 copies
Hurricane Tracking Chart (Atlantic)	NOAA PA 77020	50,000 copies

- These next two publications are in their final stages of completion. We anticipate the field guide to be finalized by mid-February and sent to the printer for delivery by early April 1993. The hurricane booklet has been sent to NHC for review. NHC wants to include Hurricane Andrew details. We are hoping for delivery of copies by May 1993--in time for the 1993 hurricane season.

Advanced Spotters' Field Guide	NOAA PA 92055	10,000 copies
Hurricane! A Familiarization Booklet	NOAA PA 91001	20,000 copies

- The **SKYWARN Spotter ID Card** (NOAA PA 84001) is out of stock at this time. It's in dire need of updating. Plans at this time are to have Western Region Headquarters select a WPM to work on updating the spotter ID card. Nicholas Leivers, WPM, WSFO Los Angeles, California, will undertake this task. It's our desire to complete this project within the calendar year. If you have any suggestions as to the design or content, please forward your ideas to the Warning and Forecast Branch or to Nick at (310) 575-7289.

Cleaning and Repairing of Films and Videotapes—*Kremkau*

Once again, the contract for cleaning and repairing films and/or videotapes has been awarded to the Modern Talking Picture Service, Inc. (address below). If you have any films or videotapes that need to be cleaned or repaired, please mail them to Modern and include a self-addressed franked mailing label so that it can be mailed back to the sender. This is very important because shipping costs are not included in the contract. Also include a note describing what needs to be repaired.

Modern Talking Picture Service, Inc.
5000 Park Street, N.
St. Petersburg, FL 33709
Attn: Patti Larkin

AWARE Report Roster—*Kremkau*

Attachment B is the AWARE Report Roster. Please review the list of telephone numbers, and notify me at 301-713-0090 if there are any changes. Also, if you know of someone who would like to be on the AWARE Report distribution list, please have him/her contact the Warning and Forecast Branch.

STATISTICS

1991 Summary of Natural Hazard Statistics—*Kremkau*

The "Summary of Natural Hazard Deaths for 1991 in the United States" (which included deaths, injuries, and damage costs) was sent out in December 1992 to those individuals on the AWARE Report distribution list. Additional copies can be obtained from the Warning and Forecast Branch.

To briefly summarize, 391 deaths occurred as a result of severe weather during 1991. This death toll is somewhat less than 1990's total of 461. Lightning was the number one killer during 1991 with 73 deaths (although for the 20-year average, lightning ranked second (80) behind flash floods/floods [146]). New sections added to the yearly summary this year were: "Weather Deaths by Month" and "Severe Weather Deaths, Injuries, and Damage Costs Listed by State." July was the deadliest month weather-wise with 60 deaths. California had the most number of deaths in 1991 with 39; Pennsylvania followed with 33; New York had 32; Kansas, 23; Texas, 22; and Florida, 20.

NEXRAD INFORMATION DISSEMINATION SERVICE (NIDS)
SPECIAL SUBSCRIBER STATUS APPLICATION

MAILING INSTRUCTIONS

If you are requesting new special subscriber status send your application along with your narrative statement to the National Weather Service Regional Director who's region includes the state where your office is located. A list of states and associated National Weather Service Regions can be found below. The addresses of the Regional Directors can be found on the next page.

STATES AND ASSOCIATED NATIONAL WEATHER SERVICE REGIONS

STATE OR AREA	NWS REGION	STATE OR AREA	NWS REGION
Alabama	Southern	Nebraska	Central
Alaska	Alaska	Nevada	Western
Arizona	Western	New Hampshire	Eastern
Arkansas	Southern	New Jersey	Eastern
California	Western	New Mexico	Southern
Colorado	Central	New York	Eastern
Conneticut	Eastern	North Carolina	Eastern
Delaware	Eastern	North Dakota	Central
District of Columbia	Eastern	Ohio	Eastern
Florida	Southern	Oklahoma	Southern
Georgia	Southern	Oregon	Western
Hawaii	Pacific	Pennsylvania	Eastern
Idaho	Western	Puerto Rico	Southern
Illinois	Central	Rhode Island	Eastern
Indiana	Central	South Carolina	Eastern
Iowa	Central	South Dakota	Central
Kansas	Central	Tennessee	Southern
Kentucky	Central	Texas	Southern
Louisiana	Southern	Utah	Western
Maine	Eastern	Vermont	Eastern
Maryland	Eastern	Virgin Islands	Southern
Massachusetts	Eastern	Virginia	Eastern
Michigan	Central	Washington	Western
Minnesota	Central	West Virginia	Eastern
Mississippi	Southern	Wisconsin	Central
Missouri	Central	Wyoming	Central
Montana	Western		

NEXRAD INFORMATION DISSEMINATION SERVICE (NIDS)
SPECIAL SUBSCRIBER STATUS APPLICATION

MAILING INSTRUCTIONS

MAILING ADDRESSES OF THE REGIONAL DIRECTORS

Regional Director
National Weather Service Eastern Region
Airport Corporate Center
630 Johnson Avenue
Bohemia, New York 11716

Regional Director
National Weather Service Southern Region
819 Taylor Street
Fort Worth, Texas 76102

Regional Director
National Weather Service Central Region
601 East 12th Street
Kansas City, Missouri 64106

Regional Director
National Weather Service Western Region
P.O. Box 11188, Federal Building
125 South State Street
Salt Lake City, Utah 84147

Regional Director
National Weather Service Alaska Region
222 West 7th Avenue #23
Anchorage, Alaska 99513-7575

Regional Director
National Weather Service Pacific Region
P.O. Box 50027
Honolulu, Hawaii 96850

If you are requesting renewal of special subscriber status, a change of NIDS providers or a cancellation of special subscriber status send your completed application to the National Weather Service NIDS Administrator. The address is:

NIDS Administrator, W/OSO14
NOAA/National Weather Service
1325 East West Highway
Silver Spring, MD 20910-3233