

Aware

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

Reinventing Ourselves

The last issue of the *Aware Report* included a lead article on the warning process that began with the observation that these are difficult times for all of us in government whether it be at the Federal, state, or local level. Granted these are difficult times, but adversity forces us to take a good, hard look at ourselves. True self assessment will enable any organization to identify those things that it does well, seek to preserve them, and target those things that it could do better to ensure its continued leadership.

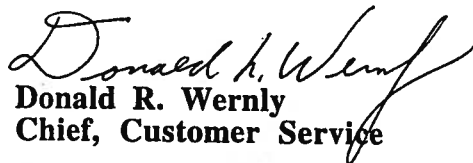
This past year has been a period of self assessment and reflection for the Office of Meteorology (OM). We found many things that we were proud of and want to preserve, such as our commitment to service and to the professional development of the National Weather Service (NWS) workforce. We also identified ways to make the office more efficient and more in tune with our customer's needs. The result has been the reorganization of OM. The main goals of the reorganization are to ensure that OM takes a leadership role in the advancement of meteorology and the translation of new science into superior future services. This, in turn, will require an even greater focus on our customers and the involvement of our customers in the development of new science and new services.

The new organization has resulted in a streamlined management structure with four cores replacing the old six branches. The Warning and Forecast Branch, which used to publish the *Aware Report*, has been remolded into the Customer Service Core to heighten OM's focus on the customer. Further information on the new structure can be found in the article on the Reorganization of OM on page 3.

The reorganization has had a profound impact on our employees. Suffice it to say, each of us has seen our job change in some way. There also has been a considerable amount of movement as the program leaders in the old branches have been culled and coalesced into the new cores. During this entire process, OM continued to lead its major programs with considerable success as the articles in this issue attest. Has it been difficult? Certainly! Was it worth it? Absolutely!! And now as the new fiscal year progresses, OM is positioned to provide the leadership and support that you, our customers, expect.

On an even larger scale, the National Meteorological Center (NMC), the National Severe Storms Forecast Center (NSSFC), the National Hurricane Center (NHC), and the Climate Analysis Center have been reorganized into the new National Centers for Environmental Prediction (NCEP) (see NCEP story on page 8). This reorganization is the key to a new forecast process that involves the NCEP, River Forecast Centers, and local Weather Service offices. Each of these entities has a specific role that, working in concert, will ensure that this Nation maintains the best warning and forecast programs the world has ever seen.

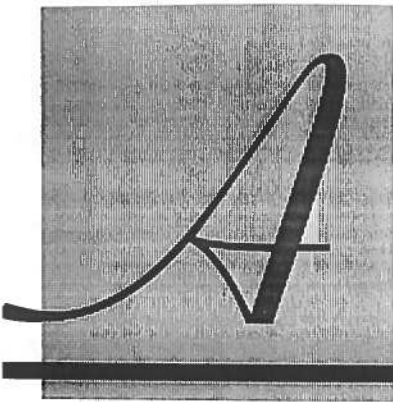
As the world becomes more complex, re-evaluation, self assessment, and reinvention will become the rule for all of us. Daring to question not only our roles but our reasons for existence will sharpen our focus and hone our priorities. In the end, stronger organizations will emerge.


Donald R. Wernly
Chief, Customer Service

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

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Please share this copy of the *Aware Report* with others in your office.

Office of Meteorology Reorganization

Reorganization of OM Effective October 29, 1995

OM has just completed a reorganization which should streamline operations and position OM to assume an even greater leadership role in the advancement of meteorology and the translation of new science into superior service. OM's mission has been defined to support the NWS mission of safety of life and property through operational excellence in the creation of superior future services. This requires that OM must guide the evolution of new science, ensure that science folds directly into new services, support the introduction of new technologies into the forecast and dissemination processes, and ensure the continued professional development of the NWS workforce.

A key to the reorganization is the focus on the *customer*. OM was restructured in such a way as to encourage team-based problem solving with the inclusion of the customer in all aspects of the process. This past year has already seen the beginnings of this process with the forums that were conducted for the Emergency Management, Marine, Aviation, and Fire Weather Communities. Presently, we are beginning to put an advisory team together of all interests concerned in the decentralization of severe local storm watches (see article on "Convective Watch Decentralization Plan" under the Modernization section on page 5). Another aspect of the reorganization was to create a structure that would support the "end-to-end" process of program management, ensuring that the same individuals are involved from conceptualization through planning, implementation, evaluation, and back to conceptualization.

The new structure consists of two divisions with two branches or cores in each division. The two divisions, *Science* and *Service*, have been created to support the two major emphasis areas of OM, namely the advancement of science and the creation of superior future services. The concept of branches has been replaced with cores as each of these entities are created from like functions that should enable each core to function as its own operationally oriented team. For specific projects, program leaders from the appropriate core will be selected to lead task teams of finite duration. Customers will be brought into the task teams to ensure that the solutions involve the needs and requirements of our users.

Following is a brief description of each element in the new structure.

Science Division

The Science Division serves as the primary staff division for the development of requirements, implementation strategies, operational methodologies, and operational assessments for all systems supporting observations, forecasts, and dissemination. The Division also is responsible for coordinating collaborative interactions with the research community to ensure the latest science supports the end-to-end forecast process. Based on the technologies

and scientific advances, training and professional development activities are undertaken to optimize the effectiveness of the NWS workforce.

Science and Training Core

The Science and Training Core serves as the NWS focus for the scientific aspects of atmospheric programs, including setting requirements for scientific developments that lead to improved service, reviewing new developments to ensure their scientific integrity, and ensuring the professional development of the workforce. The Core also provides direction to the U.S. Weather Research Program and coordinates collaborative research activities with university and research institutions.

The Core embodies the training functions that previously resided in the Services Evaluation Branch as well as the scientific aspects associated with the Services Requirements Branch, such as the Committee on Applied Forecasting Techniques and Implementation.

Technology and Forecast Systems Core

The Technology and Forecast Systems Core has the end-to-end responsibility for the new technologies, including requirement setting, implementation, evaluation, and management for such systems as the Weather Surveillance Radar-1988 Doppler (WSR-88D), Satellites, Upper Air, and the Automated Surface Observing System (ASOS). The Core is also the focus for the Environmental Services Data and Information Management Program as well as the North American Atmospheric Observing System.

The Core is comprised of the functions previously associated with the Systems Requirements Branch as well as the operational aspects of the satellite program from the Marine and Applied Services Branch and the WSR-88D program from the Operations Division.

Service Division

The Service Division manages the warning and forecast programs of the NWS by establishing requirements, developing implementation strategies, setting policy for service and service enhancements, and evaluating products and services to ensure that they meet customer requirements while incorporating the latest advances in science and technology. The Division ensures a customer-based approach toward the development of services and manages service change through the direct involvement of customers in project teams. Special customer emphasis will be placed on organizations and agencies with shared missions as well as continued enhancement of the complementary aspects of the public/private partnership in the delivery of services.

Integrated Hydrometeorological Services Core

The Integrated Hydrometeorological Services Core combines the NWS warning and forecast programs into one Core to foster

consistency in requirement setting, implementation, and management of services. This should lead to a greater understanding of the relationship of service changes from one program to another, especially in terms of how these changes affect the Weather Forecast Office (WFO) operations in the end-to-end forecast process.

This Core combines functions that resided in the Warning and Forecast Branch, the Aviation Services Branch, the Marine and Applied Services Branch, and the Services Development Branch.

Customer Service Core

The Customer Service Core is the focus for customer satisfaction and user outreach activities for the NWS. It is structured around the role of the Warning Coordination Meteorologists (WCM) who are the NWS service representatives. Accordingly, the Core develops policy and procedures to assist the NWS in assessing user requirements, developing new or improved services, coordinating activities of all organizations involved in the warning process, evaluating NWS products and services, and communicating critical information with weather sensitive interests. Each of the programs in the Core cross-cut all NWS service programs.

The Core is made up of functions that were located in the Warning and Forecast Branch, the Aviation Services Branch, and the Services Evaluation Branch.

Principal Scientist

The Principal Scientist serves as the science advisor for OM as well as the OM focus on hydrometeorological issues to the National Oceanic and Atmospheric Administration (NOAA) Chief Scientist. The position complements the roles of the Science Division in collaborative efforts with the research community and in providing direction to the U.S. Weather Research Program.

The position resides in the Director's Office and incorporates the functions of the past Principal Scientist that also was located in the Director's Office.

Service Implementation Meteorologist

The Service Implementation Meteorologist position has been established to ensure that OM is focused on the major modernization and restructuring issues. Responsibilities include providing guidance and strategic planning for all transition activities, ensuring that the NWS is focused on the end-to-end forecast process, ensuring that the NCEPs and the Advanced Weather Interactive Processing System (AWIPS) support WFO requirements, and coordinating all service transition plans.

The position is located in the Director's office and accommodates the functions previously located in the Services Development Branch.

Executive Office

The Executive Office supports the Director, manages the budget and personnel resources, and ensures that the Director is focused on the most important issues affecting the Office. The Executive Office also ensures that all correspondence, policy documentation, and controlled correspondence conforms to accepted format and that the

administrative functions of the office are handled in an effective and efficient manner. [REDACTED]

— Donald Wernly, Chief, Customer Service, Weather Service Headquarters (WSH)

OFFICE OF METEOROLOGY PROGRAMS AND PEOPLE

Director's Office (OM)

Employee	Title	Focus/Programs
Louis Uccellini	Director	
Myrna Franklin	Secretary	
Steve Lord (Acting)	Principal Scientist	Science Issues; Coastal Ocean Program; Special Projects
Eugene Auciello	Serv. Implem. Mgr.	Transition Issues

Executive Office (OMx1)

Mary Newton	Executive Officer	Office Operations; Budget/ Personnel Resources; Controlled & Other Correspondence; Policy Documentation; Scheduling for Director
Ann Jiles	Support Assistant	Budget
Yolanda Lallo	Support Assistant	Personnel/Property
Timothy Wugofski	Computer Specialist	Computer Resources

Services Division (OM1)

Richard Przywarty	Chief	Administration
Joan Weinberg	Secretary	

Customer Service Core (OM11)

Donald R. Wernly	Chief	Administration
Estella M. Speaks	Secretary	
LaShone Darden	Automation Clerk	
Linda Kremkau	Tech. Pub. Editor	Hazard Awareness
Rainer Dombrowsky	Warning Coordination Mgr/FEMA Liaison	WCM; FEMA Coord.; Forecast Coord.
Rod Becker	Dissemination Services Manager	Dissemination Services; NOAA Weather Radio, NOAA Weather Wire Services, etc.; Short-Term Forecast Resource
Ron Berger	Special Services Meteorologist	Congressional; User Notification; Dissem. Resource
Bill Lerner	Confirmation of Services Manager	Confirmation of Services; Services Evaluation
Paul Polger	Verification Manager	Verification
Charles Kluepfel	Quality Assurance Meteorologist	Verification; DACFO
Robert Kuessner	Forensic Services Manager	Litigation; Accident Investigation; Weather Records Management
Bill Kneas	Public Safety Met.	Accident Investigation; WCM Resource; Wx Records Mgmt.
Alfreda Walters	Documentation Specialist	Weather Documentation; Weather Records Management
Joan Von Ahn	Customer Education Meteorologist	User Education; Home Page; Media Room
Guadencio Rivera	Constituent Affairs Meteorologist	Significant and Severe Wx; Hurricane Watch Office; Special Studies; NTD-CWA; NWS Operations; APAR
Chris Adams	Senior Social Scientist	E.M. Comm Projects; Social & Economic Impacts Research-USWRP; NWS/FEMA Joint Training
Bill Alexander	Mesoscale Manager*	Severe Local Storms; SPC Implementation; Flash Floods
Roland Stewart	Physical Scientist	Media Room Tech Support; Home Page Resource

*Retained in Customer Service Core through SPC implementation.

Integrated Hydrometeorological Services Core (OM12)

Therese Pierce	Chief	Administration
Deborah Jones	Secretary	
Linda Starr	Secretary	
Chris Alex	Meteorologist, Terminal	METAR/TAF/LAA/AWW/TWEB
Dorothy Becker	Program Leader, Terminal	ASOS FP/FAA & User Groups, Terminal Wx
Jannie Gibson	IGIA Liaison	IGIA Coordination Flight Documentation
Bob Krebs	Met., Enroute	VAFTAD/Enroute Wx DRG
Jim Roets	Met., Terminal	CWSU/CFCF/Transition Plan
Jerry Uecker	Program Leader, Enroute	International and Enroute Aviation Weather
Paul Jacobs	Manager, Marine Weather Services	Marine Warnings & Forecasts
Laura Cook	Assist. Manager, Marine Wx Services	Marine W & F; Coast Guard Liaison

Bill Sites (Tim Rulon - Sites replacement)	Lt. Cmdr NOAA Corps Cmdr NOAA Corps	Tsunami Warnings; Global Maritime; Distress & Safety System; Earthquake Programs; Tide Data Port Met. Services	Sam Contorno Hank Robinson Tony Mostek	Meteorologist Meteorologist Remote Sensing Training Prog. Mgr. National SAC Coord.	CSTAR; T&PD T&PD; SOO/SAC Remote Sensing Training
Vince Zegowitz	Program Leader, Marine Observations	Port Met. Services	Peggy Bruehl Jim Cowie Elizabeth Page Rich Cianflone Julie Hall	Computer Specialist Meteorologist Meteorologist Meteorologist	SOO/SAC COMET COMET COMET
Marty Baron	Asst. Prog. Leader, Marine Observations	Port Met. Services			
Jeanne Hoadley	Microscale Program Leader	Fire Weather; Agriculture; Air Pollution Public; Hurricane			
Kevin McCarthy	Program Leader				
Science Division (OM2)			Technology & Forecast Systems Core (OM22)		
Richard Przywarty (Acting)	Chief	Administration	Fred Zbar	Chief	Administration
Bonnie Sharpe	Secretary		Regina Bassette	Secretary	
Diane Savoy	Support Assistant		Debra Greeley	Secretary	
			Joanne Courchesne	Program Leader	CRS/ASOS
Science & Training Core (OM21)			Ron Gird	Program Leader	Satellite
Joe Bocchieri	Chief	Administration	Jim Heil	Asst. Prog. Leader	Satellite
Brenda Hernandez	Secretary		Andy Horvitz	Program Leader	ASOS
Mary Howell	Secretary		Rich Lane	Program Leader	Radar
LeRoy Spayd	Training & Prof. Development Prog. Manager	COMET; Training & Prof. Development (T&PD); CSTAR; SOO/SAC; Remote Sensing	Andy Noel	Meteorologist	ASOS/Satellite
			Carl Weiss	Meteorologist	Satellite/Upper Air
Eli Jacks	Field Science Program Manager	Science Liaison; T&PD; SOO/SAC; COMET	Vice Horvitz	Program Leader	ESDIM
Jim Gurka	Scientific Studies Program Manager	Remote Sensing; Lake Effect Snow; COMET	Gary Charson	Meteorologist	MAR
Tom Graziano	QPF Program Manager	QPF	Rick Decker	Program Leader	Upper Air
Brent Bower	Meteorologist	Science Liaison; Evaluation and AWIPS Training; T&PD	Robin Radlein	Program Leader	AWIPS
			Mike Heathfield	Meteorologist	AWIPS
			Vice Hakkarinen	Meteorologist	AWIPS
			Tom McClelland	Meteorologist	AWIPS
			Glenn Rutledge	Meteorologist	AWIPS
			Martha Yacoub	Meteorologist	AWIPS
			Mike Tomlinson	Meteorologist	MAR

Modernization

Convective Watch Decentralization Plan

The modernization and associated restructuring (MAR) of the NWS integrates a wholesale upgrade in science, technology, and personnel with a revamping of the NWS field office structure. The purpose of the MAR is to enhance the agency's ability to fulfill its mission of protecting lives and property. Historically, a part of the agency's effort to fulfill its mission has involved the convective watch program. In the scientific, technological, and professional environment from the middle 1950s through the early 1990s, NSSFCC was best equipped to perform the convective watch function. Because of the MAR, new technologies, including WSR-88D, ASOS, a next generation of Geostationary Operational Environmental Satellite (GOES), a Doppler-based wind Profiler, new NCEP computer models, and AWIPS, will exist at WFOs. Additionally, new levels of scientific understanding and professionalism will exist at WFOs. The incorporation of these many new resources into the operational field office environment means that the WFO will be the most capable operating entity to provide convective watches for their areas of forecast responsibility. By the end of the decade, the convective watch function will shift to WFOs.

Concept

In 1995, the NSSFCC convective watch responsibility shifted to the Operations Branch of the newly created Storm Prediction Center (SPC), a part of NCEP. Migrating the convective watch responsibility from the SPC to WFOs will be complex due to changes occurring both in the NCEPs and field offices. NWS field office structure is changing from its two-tier arrangement (Weather Service Forecast Offices [WSFOs] and Weather Service Offices

[WSOs]) to a single tier structure (WFOs). Because of the complexity of reassigning convective watch responsibility amid such dramatic changes, the watch program transfer will be performed incrementally. Each Phase will be preceded by a risk reduction, involving the SPC, field offices, National and Regional Headquarters, and NWS customers. The program to shift convective watch responsibility, called the Convective Watch Decentralization, will begin early in 1996 and will be completed late in 1999. Upon its completion, WFOs will be issuing convective watches for their County Warning and Forecast Area (CWFA) using guidance from the SPC in conjunction with locally acquired information.

Incremental Phases

The Convective Watch Decentralization will be accomplished over four Phases. Each Phase will include a risk reduction exercise and a post-risk reduction validation to test, assess, and ensure the NWS is meeting the needs of its customers. Successful implementation of each Phase will mean that plans can move forward to implement the next Phase.

Phase I changes the design of the convective watch from a parallelogram to a polygon of not more than six (6) sides. The watch usually covers CWFAs of multiple WSFOs. Phase I also introduces a product issued by WSFOs to clear watches called the Watch Clearance Message. It allows both external customers and the SPC to update their watch information based on county-based Universal Generic Codes (UGC). Successful implementation of Phase I is predicated on the hardware to update the National Warning System (NAWAS) at SPC and field offices, as well as computer software at the SPC, NCEP Central Operations, and field offices, to transmit and process watch information.

Phase II assigns greater responsibility for the convective watch to WSFOs and NEXRAD (Next Generation Radar) Weather Service Offices (NWSO) with initial Stage II staffing. All other NWSOs will participate in the watch program through continued coordination efforts and by performing "shadow" watch preparation for their CWFA. In Phase II, a guidance watch narrative will be transferred internally from SPC to WSFO/NWSOs, who will pass the message through software to make appropriate adjustments to watch valid times and affected counties. The WSFO/NWSO then will transmit a watch for their CWFA. The result will be many more watches, i.e., one for each WSFO/appropriate NWSO, instead of a watch covering multiple WSFO CWFAs. Phase II results in physically smaller watches with shorter valid times. This Phase will be predicated on the successful implementation of Phase I and the existence of SPC, WSFO/NWSO, and customer software able to construct, process, and receive encoded watch information.

Phase III is the initial decentralized environment. WFOs generate convective watches based on graphical and/or narrative, probabilistic guidance from the SPC, supplemented by NCEP gridded model guidance as well as locally-generated diagnostic and observational information. Phase III is predicated on the availability of graphical and/or narrative, probabilistic convective watch guidance from the SPC. It is predicated also on the successful implementation of AWIPS at each WFO with sufficient power to process data sets from multiple sources, to ingest and process graphical, probabilistic convective watch information from the SPC, and to communicate the WFO watch product externally. Further, it is predicated on the successful completion by WFO forecasters of specific training modules that address how severe local storms develop, intensify, and generate weather hazards. The Phase III Risk Reduction can be implemented while successful Phase II operations continue over the portion of the Nation not involved in the Phase III Risk Reduction.

Phase IV is the full implementation of the decentralized environment, using gridded, graphical, probabilistic guidance from SPC. The gridded information flows into the WFO AWIPS, where product generators using locally adaptable parameters will be used to create draft watch products. Phase IV is predicated on SPC developing appropriate gridded products on their NCEP AWIPS (N-AWIPS) platform that can be transmitted for processing by all AWIPS sites.

Preliminary Internal/External Coordination

In addition to NWS participation, wholesale involvement of NWS customers is planned to provide feedback that will make the NWS suite of products more useable by our customers. To facilitate such involvement and to ensure successful Risk Reduction efforts, OM has been coordinating the Decentralization with customers since the middle of 1994. Such coordination efforts include:

- organizing a Customer Advisory Panel to work with OM directly and providing ongoing feedback during the Risk Reduction (and throughout the Decentralization);

- developing a working relationship with the American Meteorological Society (AMS) Board of Radio and Television Broadcasters through a working group that addresses media concerns regarding the NWS MAR;
- presenting plans to decentralize the Convective Watch Program at national annual meetings of the AMS, the National Weather Association, emergency management organizations, flood management organizations, aviation groups, and vendors of NWS data;
- publishing OM manuscripts that describe the Convective Watch Decentralization in national emergency management newsletters, commercial vendor newsletters, *The Critical Path*, the *Aware Report*, and in the *Bulletin* of the AMS; and
- developing product formats with electronic media and other customers.

Additionally, OM has been providing information to NWS Regions and field personnel by:

- presenting the Convective Watch Decentralization concept at national WCM conferences and at Regional WCM workshops,
- presenting the Decentralization concept at WCM training classes, and
- discussing the Decentralization concept with staff of the NSSFC (now SPC).

Validation

Validation will include both objective and subjective assessments for each Phase. Objective evaluations will be performed by SPC and WSH using watch verification data. Subjective assessments will be performed by WSFO/NWSO staff, Regional Meteorological Services Divisions (MSD), and WSH. In addition, customer involvement will be ongoing throughout the Decentralization. Customers include:

- the media: national network and cable weather providers, local electronic media, media weather consultants;
- private sector weather service providers;
- emergency management: National Emergency Management Association (NEMA), National Coordinating Council for Emergency Management (NCCEM);
- the aviation community; and
- marine customers, such as commercial fishing and travel/recreation associations.

A favorable summary report consolidating these assessments, supplied by NWS Headquarters following each completed risk reduction, will be needed to recommend to the Director of the NWS that the next Phase begins.

A Customer Workshop is being planned for January in Silver Spring, Maryland, to discuss the decentralization plan and the UGC.



—Bill Alexander, Customer Service, WSH

One County/Zone—One Universal Generic Code (UGC)???

By now, you're familiar with the NWS's zone reconfiguration for much of the country east of the Rockies where "one county—one zone" is the rule. These smaller weather forecast zone areas, in most cases the size of individual counties, allow us the flexibility to provide select groupings of zone forecasts that more accurately reflect the ongoing weather.

At customer request, we are now turning our attention to the seemingly "simple" problem of devising one UGC for all NWS products, including warnings and forecasts. These requests have come from many customers, including emergency managers, who supported this change at an NWS-sponsored forum here in the Washington, D.C., area earlier this year.

Currently, the UGC for short-fuse warnings (tornadoes, severe thunderstorms, and flash floods), typically issued for only one or two counties, uses the county or "C" form, where the county number is the Census Bureau's Federal Information Processing Standard (FIPS). This number uniquely identifies each county in a state and is used by Federal, state, and local officials for many purposes, including the tracking and documentation of and local response actions to hazardous weather on a county basis.

At the same time, the UGC for all other NWS products, including state, zone, short-term and marine forecasts, and follow-up statements, typically issued for many counties or all of a state, uses the zone, or "Z" form, where the number is a uniquely identified NWS zone forecast area. This came about when zones were multicounty size and more convenient for coding of large areas.

One option for a unified UGC would be the FIPS numbering system for counties. The problem is that many counties are subdivided into small forecast zones in mountainous and some coastal areas. And new official FIPS numbers cannot be devised for subcounty areas (see next paragraph for possible solution). The other option is to use NWS zone numbers in the UGC for all products. The problem there is that an increasing external communications infrastructure is being built around the FIPS county number, not NWS zones. For example, the new Emergency Alert System (EAS) (formerly Emergency Broadcast System [EBS]) to begin later next year will use FIPS-type protocols as does NWS's NOAA Weather Radio Specific Area Message Encoding (NWRSAME) for automated entry to the EAS. This also points to the next paragraph as a possible solution.

One ready but complex solution to the code unification, using FIPS, is to replace the "C" in the UGC with a digit from 0 up to 9. This digit, defined at local NWS offices, would identify, as necessary, subparts of counties (NE, NW, SW, SE, etc.). A zero would indicate that the entire county is affected. The digit is already incorporated into the EAS protocol and would default to zero unless we and our customers agree to this change. Complications would include NWS offices defining zones by parts of counties, using landmarks, roads, etc. (in those areas where counties are subdivided). Furthermore, the code for these zones would contain several UGC strings, compared with current zones that are each uniquely identified by one UGC string.

We will be presenting these issues and the convective watch decentralization before a panel of customers, including emergency managers, media representatives, and private meteorological vendors, at a Customer Workshop in January at WSH.

—Rod Becker, Customer Service, WSH

UGC Key

SSCNNN>NNN>NNN-DDHHMM-

or

SSZNNN>NNN>NNN>NNN-DDHHMM-

where:

SS = State ID
C = County Indicator
NNN = County FIPS Number

or

Z = Zone Indicator
NNN = NWS Zone Number

DDHHMM = Expiration Date/Time (hr, min) in UTC
- = County/Zone Separator or End of UGC String
> = Consecutive Zone Number Indicator

Examples

MDC031-033-200815-

means the following counties in Maryland:
Montgomery (031) and Prince George's (033) will be affected until 0415 a.m. EDT on the 20th of the month.

MDZ009-013-016>018-142120-

means the following zones in Maryland: Montgomery (9), Prince George's (13), Charles (16)-St. Mary's (17)-Calvert (18), will be affected until 420 p.m. EST on the 14th of the month.

Console Replacement System (CRS) Program

The Critical Design Review (CDR) for the NOAA Weather Radio (NWR) AMPRO CRS was held in Camarillo, California, August 29-31, 1995. The purpose of this meeting was to follow-up on action items generated during the Preliminary Design Review held back in May. Attendees included members of OM, Office of Systems Operations (OSO), and representatives from the regions. Overall, the review went well. The contractor's (CommPower) staff demonstrated an impressive overall comprehension of the system requirements. However, a few more action items did result from the review; for example, the NWS is to clarify certain requirements for CommPower, and CommPower is to provide the NWS with a precise clarification and thorough demonstration of the schedule routing function. These issues are to be tasked and largely resolved before the CDR II scheduled for the first week in November at CommPower. In addition, plans for training materials production are being reviewed, along with a system installation plan.

Upon completion of the CDR II on November 2, 1995, the next major milestone will be the delivery of the first five prototype systems. The first is scheduled to be delivered to WSH in July 1996 for Integrated Test Bed testing. Operational Test and Evaluation (OT&E) will begin in September 1996 concurrently at four field sites including: Oxnard, California (chosen for its proximity to CommPower); Birmingham, Alabama (to test the maximum amount of transmitters/transmitter scheduling); Pleasant Hill, Missouri (because of its proximity to the NWS Training Center); and Charleston, West Virginia (they are an Interactive Computer Worded Forecast [ICWF] test site). The ICWF will provide the building block for the creation of the AWIPS product reformatters for CRS. Until the reformatters are available on AWIPS, the Automation of Field Operations and Services (AFOS) will perform this function and allow CRS to automate two of our routine products: the hourly weather roundup and the daily climate summary. Upon conclusion of the OT&E, field deployment will begin. Current schedules place this milestone in July 1997, with installation completed 1 year after that date.

Besides easing the staff workload at our offices, CRS will be capable of driving multiple transmitters with independent broadcasting programs, automatically converting text data from the reformatter on AWIPS or AFOS into synthesized speech. CRS will allow for a sophisticated and varied broadcast schedule, providing the capability to schedule a product by periodicity as well as sequence, grouping, and time insertion. CRS will allow local offices to strictly tailor NWR output scheduling to distinct user needs and preferences. CRS is critical to the NWS mission of disseminating warnings and watches of imminent hazardous weather, including automated provision of the NWRSAME codes for entry to the new nationwide EAS and will help achieve the goal of providing an all-hazards dissemination system. *A*

—*Joanne Courchesne, Technology and Forecast Systems, and Rod Becker, Customer Service, WSH*

Status on the Weather Forecast Office (WFO) Backup

Clarifying the NWS plan for developing standardized service back-up procedures is becoming intricately involved in the development of hardware. In addition to OM building a generic outline of how WFO service backup should be accomplished, the hardware specifications and requirements are being identified that will enable the service arrangements to be accomplished. Those hardware specifications include: (1) the ability for WFOs to access multiple WSR-88D radars with virtually unlimited access to data, and (2) AWIPS capability to accept and process WSR-88D input from multiple WSR-88Ds.

Regions already have provided a prioritized list of WSR-88Ds for which each WFO should have associated access. That is needed in order to allow WFOs to continue in full warning and forecast capabilities even though their primary WSR-88D is disabled. Alternatively, such associated connectivity is needed in case a WFO is disabled and back-up offices need to access the disabled WFO's WSR-88D. In addition to having the prioritized list of WSR-88Ds, the hardware connectivity also is needed. By the end of November, OM will have written requirements for this capability.

The WSR-88D associated connectivity, in and of itself, will enable WFOs to use the Principal User Position (PUP) to access appropriate WSR-88Ds to provide needed information, but once the PUPs are no longer in use, the same capability is necessary via AWIPS. Once again, OM will write requirements for the AWIPS Office to ensure signals from multiple WSR-88Ds can be processed within AWIPS. Such capability is possible but requirements need to be prepared as soon as practicable.

Many of these technical aspects of WFO service backup will come together during the next 2 months. By the end of November, both WSR-88D and AWIPS requirements will have been identified. By the end of the year, the service back-up plan will have been drafted for formal review. By early next year, the writing of formal WFO back-up policy will be nearly complete. *A*

—*Bill Alexander, Customer Service, WSH*

National Centers for Environmental Prediction (NCEP)

The NMC, the heart of the NWS's data collection, analysis, and prediction operations since 1958, is restructuring its services to better serve the public and the modernized NWS. New services will include operational climate as well as short-range weather prediction. To reflect this new scope of services, NMC has been renamed the National Centers for Environmental Prediction, effective October 1, 1995.

Virtually all the meteorological data collected over the globe arrive at the NCEP, where they are analyzed and used to generate a variety of products that are distributed to NWS field offices, private meteorologists, the media, government offices, and the international meteorological community. Significant advances in weather forecasting technology and numerical weather modeling facilitated the NCEP restructuring.

All of the NCEP textual products, manually drawn graphic products, and some automated graphics products have headers or labels with the new name of the originating center. Other automated graphics products still have the old name of the originating center on the label. They will be changed as software can be rewritten.

The NCEP, headquartered in Camp Springs, Maryland, has nine components that work together to provide a broad suite of forecasts: seven science-based, service-oriented centers to generate environmental predictions; and two central support centers to develop and operate the numerical models on which the predictions are based.

The new *Storm Prediction Center*, co-located with the National Severe Storms Laboratory in Norman, Oklahoma, provides short-term hazardous weather guidance for the conterminous United States for heavy rains, flash floods, and winter storms. Short-term watches and forecasts for the contiguous United States for tornadoes and thunderstorms issued by forecasters now located in Kansas City (formerly, the Severe Local Storms Unit of NSSFC) will be consolidated in the new center in Norman in late 1996. Primary customers of the Storm Prediction Center are NWS field forecasters.

The new *Aviation Weather Center* in Kansas City, Missouri, warns and advises of enroute flight hazards for domestic and international aviation. They also issue forecasts of winds, temperatures, and general weather conditions for aviation users. Aviation planning graphical forecasts for domestic and international functions issued by forecasters now located in Camp Springs, Maryland, will be consolidated in the new center for more cohesive responses to the aviation community. The Command Center Weather Service Unit (CWSU), located with the Air Traffic Control System Command Center in Herndon, Virginia, is also administratively attached to the Aviation Weather Center.

The *Tropical Prediction Center*, located at the Florida International University campus in Miami, issues warnings, watches, forecasts, and analyses for tropical weather conditions. The Tropical Prediction Center includes the well-known National Hurricane Center, responsible for tracking and forecasting tropical cyclones along the U.S. coastline.

The *Space Environment Center* in Boulder, Colorado, provides national and international warnings, forecasts, and alerts of conditions in the global space environment. The Center issues specific predictions of the activity level of space weather for the next 3 days and more general predictions up to several weeks in advance and provides monthly summaries of observed solar terrestrial conditions.

The *Climate Prediction Center* in Camp Springs, Maryland, continues diagnosing and analyzing climate and now also generates climate predictions. The Center provides climate outlooks from 2 weeks to several seasons in length.

The *Hydrometeorological Prediction Center* in Camp Springs, Maryland, provides basic forecasts for the Nation's meteorological community out to 5 days in the future. The Center uses radar, satellite, and conventional data and model predictions as input for forecasts that alert field offices of potential flash floods and heavy snow. The Center coordinates with the Storm Prediction Center and the Tropical Prediction Center during severe storm and hurricane events.

The *Marine Prediction Center*, co-located with the Hydrometeorological Prediction Center, will support marine safety and navigation, coastal ecosystem health, fisheries, recreational boating, climate, and other national and international programs.

In addition to these seven service units, two support centers, both located in Camp Springs, Maryland, develop and operate numerical models required for NCEP forecasts.

The *Environmental Modeling Center* coordinates with the external research community via its Model Test Facility to research and develop numerical modeling of the dynamic processes of the oceans and atmosphere, and the interactions between the ocean, land, and atmosphere. The facility also develops small-scale and global atmospheric and oceanic models and sea surface temperature models. These improved modeling systems support the forecast requirements of the seven service centers.

NCEP Central Operations is responsible for all aspects of NCEP's operations. The Center provides management, procurement, development, installation, maintenance, and operation of all computing and communication services, linking all the national centers together.

—Ron Berger, Customer Service, WSH

Wireless Weather Information Network (WWIN)

WWIN is a non-proprietary experimental system developed in NWS's Office of Systems Operations. WWIN uses packet radio technology to disseminate NWS products directly to the public—in particular, to public safety agencies and to the deaf and hearing-impaired community.

WWIN provides a continuous, dedicated radio broadcast of digital weather data. The WWIN data feed includes a full suite of NWS products (text, graphics, and imagery), covering the entire United States and other parts of the world. The sources of data are: the NWS Telecommunications Gateway; the National Environmental Satellite, Data, and Information Service (NESDIS); and the Internet. The data broadcast originates from a transmitter on the roof of the NWS Headquarters building in Silver Spring, Maryland. At the user's end of the system, the data broadcast is captured by a radio receiver and fed into a personal computer. The user can access and display the data using Windows-based software and a "mouse." WWIN allows the user to set up visual, on-screen alarms that activate when the system receives user-selected products, such as weather warnings.

Internet users can access NOAA directly, telenet to gopher.esdim.noaa.gov, log on as gopher and select "Connection to NOAA's On-Line Data." Questions concerning WWIN can be directed to Ken Bashford, W/OSO13, on 301-713-0326, Ext. 191; by fax on 301-713-1128; or by e-mail: kbashford@smtpgate.ssmc.noaa.gov.

—Rainer Dombrowsky, Customer Service, WSH

Operations and Services

Emergency Alert System (EAS) Update

The date when the 14,000 nationwide radio and broadcast television stations will be EAS-ready has slipped six months—to January 1, 1997. This has occurred through the efforts of the National Association of Broadcasters, which successfully petitioned the Federal Communications Commission (FCC) for the delay. The date for cable television joining the EAS still remains July 1, 1997.

Starting November 6, EAS manufacturers can submit applications for equipment certification to the FCC Laboratory. The FCC thinks that many media outlets will purchase EAS equipment well before the January 1 deadline. This will allow them to take advantage of the much simplified, required periodic testing procedures of the EAS versus the old EBS. It's also expected that in some local EAS service areas, the media outlets will want to all be EAS-operational as soon as possible so they can benefit from the system's digital automation for receipt of NWS weather warnings—with consequent decommissioning of the old EBS equipment. This will be especially true of those television stations that opt for enhanced character generation interfaces included with upgraded EAS equipment. NWRSAME-encoded warnings could then automatically be crawled on TV as the station is receiving them!

Regarding emergency management (EM) participation in the EAS, the Federal Emergency Management Agency (FEMA) is working with these communities across the country explaining the system and its important benefits. It's expected that many EM facilities eventually will purchase EAS equipment for automated entry to the system. EM equipment will not have to be FCC-certified. It's speculated that EMs may wait until the price comes down from around \$2,000 for the initial January 1 compliance to \$1,000 or less for basic equipment. Eventually, local officials, like police and firefighters, will also be part of the new EAS.

As with current EBS operations, all participants at each local area will coordinate specific EAS plans. Although media facilities will be required to retransmit incoming emergency messages through the local EAS network, they will not be mandated to broadcast the information. For those emergency messages that their EAS plans stipulates shall be locally broadcast, the broadcasters have three options: (1) to have their routine programming automatically interrupted for immediate broadcast and then restored, (2) to tape them for delayed broadcast, or (3) to manually operate the EAS equipment as is done with today's EBS equipment.

—Rod Becker, Customer Service, WSH

Status of NAWAS

Despite recent rumors, NAWAS still has life. The NAWAS system is being assessed by FEMA contractors from ARTEL Inc., Reston, Virginia. In parallel, NAWAS is being downsized to meet budget goals, but there is no official plan for the dismantling of NAWAS.

WSH is supporting a proposal which will consolidate on a single national NWS circuit all NWS field offices, National Centers, CWSUs, River Forecast Centers, and Regional and National Headquarters. Details of this proposal will be provided for review on or about November 1. Some field offices and centers may be contacted by representatives of Artel to assess NAWAS customer needs and uses of NAWAS. OM has coordinated with the regions and will continue to work closely with them as we move forward on this proposal.

The proposed NWS NAWAS circuit will provide the NWS, for the first time, with a single communication and coordination capability. The NWS national circuit will be divided into 14 subcircuits which have the ability to communicate and coordinate both internally and externally to other Federal and state agencies on NAWAS. This configuration will reduce the requirement for multiple NAWAS drops at offices retaining multiple state warning and forecast responsibilities. Ultimately, this approach will provide the NWS with national coordination capabilities and reduce the operating costs for FEMA and the NWS.

—Rainer Dombrowsky, Customer Service, WSH

NWS/FEMA Joint Training Project

The next course "Hazardous Weather and Flood Preparedness" is scheduled for its first pilot test at the National Emergency Training Center, Emergency Management Institute, in Emmitsburg, Maryland, in January 1996. The second pilot, to be conducted in the field, is targeted for March. The course should be ready for teaching across the country next summer. Work is beginning on the fourth course "Warning Coordination and Communication." We are planning to bring the advisory panel together in February and have the first draft developed in April. We hope to pilot this course in early summer. The course is scheduled to be deployed in the field in the fall.

As part of this training process, we want to start tracking and evaluating the number of courses taught and the student evaluations of the specific courses. This will help the NWS review, revise, and improve the training available for emergency managers. Any regional or local WCMs or hydrologists interested in helping in this course tracking and evaluation, please contact me at 301-713-0090.

—Chris Adams, Customer Service, WSH

NWS Emergency Management Forum

Last March, we conducted the NWS Emergency Management Forum. This was co-sponsored by NEMA and FEMA. We had 137 attendees most of whom represented Federal, state, and local emergency management agencies. Our goal was to meet with our customers and begin a partnership to improve warning coordination and communication.

During a recent 1-year period, our Nation suffered losses averaging \$1 billion a week from natural disasters. While natural hazards are unavoidable, their consequences—natural disasters—can be reduced with proper mitigation, preparedness, and response. Dr. D. James Baker, Under Secretary of Commerce for Oceans and Atmosphere, reminded emergency managers that the major role of the Federal Government is national defense—defense against foreign invasion and defense against natural disasters. This Forum was convened to enhance the Nation's short-term warning goals to:

- ❑ provide "no-surprises" prediction of hazardous events,
- ❑ achieve "fail-safe" communication of hazard-event information, and
- ❑ ensure "no-regrets" response to developing natural hazards.

Dr. Elbert W. Friday, Jr., Assistant Administrator for Weather Services, stressed the need for the NWS to renew its commitment to customer service and to focus on building partnerships with its users to provide significantly improved services. Mr. Harvey G. Ryland, Deputy Director, FEMA, challenged those at the Forum to help build a modernized national warning coordination and communication capability.

Local and state emergency managers set the stage for group discussions in their presentations on lessons learned from recent weather and flood disasters. The message was clear—preparedness and proactive warnings save lives.

The main focus of the Forum was on discussion groups working in four areas: (1) warning coordination and decision making, (2) communications technologies and formats, (3) critical information needs, and (4) warning dissemination to the public warning.

The warning coordination group identified the need to simplify and standardize warning and forecast products, better support state and local informed decision making for severe weather and flood response, and enhance the training of emergency managers on severe weather and flood preparedness and response. Their key proposed action was to develop working groups with national associations and the NWS to provide solutions to these issues.

Concerning communications technologies, three main issues were discussed. First, there is a critical need for a national warning communications technology linking Federal, state, and local agencies. Second, the NWS should systematically review the future roles of NOAA Weather Wire Service and NWR/All Hazards Radio. Third, all Federal communications capabilities should be identified and reviewed for possible use in warning communications. To work on the interagency issues, a Federal, state, and local interagency working group should be formed to report on the communications requirements and options.

The discussion group on emergency management critical information needs noted that the NWS should work with the emergency management community to develop new and modify existing products to meet their hazardous weather and flood forecast needs, develop joint post-disaster surveys, and enhance user outreach. To accomplish this, the NWS should hold an interagency review with FEMA, NCEM, and NEMA to develop methodologies for involving users in product development, service assessment, and user outreach activities.

The warning dissemination to the public program is at a crossroads for modernization. The NWS should systematically review this program in terms of warning message content and format, communications technologies, and public awareness of hazards preparedness.

Copies of the final report have been sent out to all WCMs. Anyone wishing a copy of the report can contact me at 301-713-0090.

—Chris Adams, Customer Service, WSH

Paradox for Storm Data

Remarkable progress has been made toward getting Paradox for Storm Data ready for a field test in November 1995. Robb Kookaby, Paradox specialist with Research and Data Systems, Inc., has worked diligently to create a software package that is nearly intuitive. During the month of November, 11 NWS offices across the Nation will be working with the optimized, and virtually rebuilt, Paradox "Storm" software. By the end of this calendar year, any bugs that have been found in field testing will have been corrected, and a package will be heading toward the field that is much more user-friendly, much more powerful and flexible, than ever before.

—Bill Alexander, Customer Service, WSH

GOES Update

The GOES-8 spacecraft continues to perform nominally at the GOES-EAST operational position of 75W. During the 1995 Atlantic hurricane season, satellite high density wind fields, using several channels from the GOES-8 imager instrument, were produced and distributed to meteorologists at NHC. The data produced by research meteorologists at the University of Wisconsin provided new information during Hurricane Pablo. GOES-Imager based, high resolution wind fields indicated Pablo would be approaching a high level shear zone which would weaken the storm. During the season, hurricane behavior could be identified by detecting dry air intrusions and cold cloud tops wrapping around the storm center. These new products are routinely placed on the University of Wisconsin's Internet World Wide Web server.

The GOES-9 spacecraft successfully completed operational check-out by NOAA and the National Aeronautics and Space Administration (NASA) engineers on October 31, 1995. A new component has been added after the check-out period. During November 1995, GOES-9 will provide Extended Research Coverage to NOAA, NASA, and university scientists. High resolution, 3-minute imagery will be scheduled routinely over the "daily severe weather event." GOES-9 will begin its westward journey to the GOES-WEST position, starting on December 5, 1995.

—Ron Gird, Technology and Forecast Systems, WSH

The NWS Lake Effect Snow Study

One of the most difficult problems facing weather forecasters today is predicting the occurrence of lake effect snow (LES) squalls. Lake effect snow bands are mesoscale in nature, typically only 5 to

50 km wide, with cloud tops generally 10,000 feet or less and rarely exceeding 15,000 feet.

To meet the challenge of forecasting lake effect snow squalls, the NWS launched the Lake Effect Snow Study in November 1994. The overall goal of the project, which will continue through April 1997, is to find ways of improving the warning and forecast services associated with the evolution of lake effect snow squalls. Specifically, the study will: (1) assess the ability of the WSR-88D and GOES-8/9 products in detecting the development and evolution of lake effect snow squalls; and (2) evaluate existing algorithms designed for the quantitative measurement of snowfall rates.

Participants in the study include the NWS, NESDIS, and several universities. The study is coordinated by the NWS Office of Meteorology.

—Jim Gurka, Science and Training, WSH

Collaborative Science, Technology, and Applied Research (CSTAR) Program

The CSTAR Program was established by Dr. Friday to create a cost-effective continuum from basic to applied research, to operations, and to bring the current variety of collaborative research activities with the academic community into a fully supported program structure within the NWS. Examples of collaborative activities which fall within the CSTAR Program are Cooperative Program for Operational Meteorology, Education, and Training (COMET) outreach projects and research at NWS Cooperative Institutes at Texas A&M University, Florida State University, and the University of Maryland.

The CSTAR Program has been established in OM. OM has been directed to lead, coordinate, and develop procedures and processes for initiating and periodically reviewing NWS/university collaborations.

—Samuel Contorno, Science and Training, WSH

The Office of Meteorology on the World Wide Web

OM will soon have a residence on the World Wide Web (WWW)—an OM home page is under construction. The home page will include a description of OM, encompassing the programs and the staff and information on current top projects, NWS modernization, and the end-to-end forecast process. There will also be sections on frequently asked questions, publications and resources, and links to sites of related interest. Information about ongoing significant weather events (e.g., hurricanes, heat waves, extreme cold) will be provided as well as the *Aware Report* and PRESTO (the Precipitation Summary and Temperature Observations for Washington, D.C., and Baltimore, Maryland, area).

The OM home page is still in the initial planning stage. Focal Points from each core along with a Webmaster are in the process of refining and detailing the web site. Suggestions are most welcome. Target date for implementation is January 1, 1996.

—Joan Von Ahn, Customer Service, WSH

NOAA Disaster Survey Team Investigates July 1995 Heat Wave

The July 1995 heat wave was a highly rare and, in some respects, unprecedented event in terms of both unusually high maximum and minimum temperatures and the accompanying high relative humidities at Chicago, Illinois, and Milwaukee, Wisconsin. Chicago experienced its worst weather-related disaster with 465 heat-related deaths recorded during the period from July 11-27, 1995. The heat-related death toll in Milwaukee reached 85 during a similar time frame.

A NOAA Disaster Survey Team was created to explore the "end-to-end" forecast process during the July 1995 heat wave. Dr. Kathryn D. Sullivan, NOAA Chief Scientist, led the NOAA team comprised of meteorology, climatology, sociology, epidemiology, and public affairs experts. The team traveled to Chicago, Illinois; Milwaukee, Wisconsin; Philadelphia, Pennsylvania; and St. Louis, Missouri. The communication and dissemination of NWS warnings, forecasts, and advisories; the preparedness response from the media and emergency management officials; the community response; and the impacts to health, agriculture, and the economy will be analyzed.

The NOAA Disaster Survey Report will be issued in the fall of 1995. For further information, contact me at 301-713-0700.


—Eugene P. Auciello, Office of Meteorology, WSH

Hurricane Marilyn Disaster Survey

Hurricane Marilyn struck a major blow to the U.S. Virgin Islands and the islands off the east tip of Puerto Rico on September 15-16, 1995. Major destruction occurred on St. Thomas, Vieques, and Culebra with over \$1 billion in damage. NWS established a Disaster Survey Team soon afterwards to review the performance of the offices that provided services to the impacted region: NHC and WSFO San Juan. The Team is headed by Donald Wernly, Chief of the Customer Service Core, Office of Meteorology, Silver Spring, MD. The other team members are: Kevin McCarthy, Office of Meteorology; Stephen Hamed, MIC, WSFO Raleigh, NC; Reggina Garza, SERFC, Atlanta, GA; Matthew Stout, NOAA Public Affairs, Washington, D.C.; Gary Woodall, Southern Region Headquarters (SRH), Fort Worth, Texas; and Dr. Kevin Kloesel, Florida State University. The survey report, highlighting NWS actions and the users' responses to those actions, is scheduled for completion in December 1995.

—Kevin McCarthy, Integrated Hydrometeorological Services, WSH

NOAA Disaster Survey Methodology Review


How does NOAA select the sites for a NOAA disaster survey? Recent major natural disasters have raised questions on the nature and role of NOAA disaster surveys. How can we balance shrinking resources and the need to evaluate and improve warning services? What other research options are available to collect the same information and evaluate services? When is it important to send a survey team to the field? I am heading up an agencywide review of the NOAA disaster survey and its role in service evaluation. Bill Lerner and I will be discussing options and ideas with the WCMs, the regions, headquarters' offices, the Office of Oceanic and Atmospheric Research, and the Office of the Federal Coordinator for Meteorological Services and Supporting Research. They will report back to senior management with their recommendations in the near future. 

—Chris Adams, Customer Service, WSH

Office of Hydrology To Revise Structure For Hydrologic Policy Chapters

The NWS modernization involves implementation of several new technologies and operations that affect the Hydrologic Services Program. Instead of adapting the current archaic policy chapter structure to the modernized era, the Office of Hydrology has undertaken a comprehensive revision of the Weather Service Operations Manual (WSOM) Part E—Hydrologic Services. WSOM Part E is being completely restructured and rewritten to delete obsolete chapters (e.g., "Teletypewriter Messages"), specify policies on modernized operations at field and headquarters offices, and implement a format which makes it easier to quickly locate policies on a specific concern.


The new structure involves a fairly major change in the way hydrologic policies are presented. Instead of having a separate policy chapter for each new program or forecast issue that has arisen during the last quarter century, most policies are grouped in a topical format by the type of NWS office. For example, if a WFO meteorologist wants to check the policies on flash flood products, he/she will find that material in the WFO Hydrologic Products chapter instead of a separate flash flood chapter. This makes it easier to cross-check policies on other types of hydrologic products and typically eliminates the need for a repetitive "Roles of NWS Offices" section at the end of each chapter. The Office of Hydrology recognizes that the chapter structure as it appears on hard copy will eventually be irrelevant anyway since text can be stored in a relational data base for display on a work station. Users would then interactively enter or select keywords to seek out appropriate policies.

The exact timing for completion of this project is uncertain, but the general target is 1996. Most chapters are being written in generic language such that they can be implemented during Stage 1 with few if any revisions or additions needed once Initial Stage 2 begins. 

—Tim Helble, Hydrologic Operations Division, Office of Hydrology, WSH

E-01 to E-09 Program Management and General Policies	
E-01	.... Mission and Objectives of the Hydrologic Services Program
E-02	.... Overview of the Hydrologic Services Program: Structure and Management
E-03	.... Geographic Areas of Responsibility
E-04	.... Hydrometeorology In the National Weather Service
E-05	.... Hydrologic Forecast Improvement Program
E-06	.... NWS/Private Sector Hydrology Relationships
E-07	.... Interagency/International Relationships
E-08	.... Technology Transfer
E-10 to E-19 River Forecast Centers (RFC)	
E-10	.... River Forecast Center Systems
E-11	.... River Forecast Center Operations
E-12	.... River Forecast Center Products and Services
E-13	.... River Forecast Center Reports
E-14	.... River Forecast Center Manuals For Hydrologic Operations and Services
E-15	.... River Forecast Center Training and Professional Development
E-20 to E-29 Weather Forecast Offices (WFO)	
E-20	.... Weather Forecast Office Systems Used In Hydrologic Operations
E-21	.... Weather Forecast Office Hydrologic Operations
E-22	.... Weather Forecast Office Hydrologic Products and Services
E-23	.... Weather Forecast Office Hydrologic Reports
E-24	.... Weather Forecast Office Manuals for Hydrologic Operations and Services
E-25	.... Weather Forecast Office Hydrologic Training and Professional Development
E-30 to E-39 National Activities	
E-30	.... National Hydrologic Information Center
E-31	.... National Operational Hydrologic Remote Sensing Center
E-32	.... National Hydrologic Products
E-33	.... National Hydrologic Forecast Verification Program
E-34	.... National Hydrologic Intern Program
E-35	.... Office of Hydrology Support for Field Systems
E-40 to E-49 Hydrologic/Hydrometeorologic Networks	
E-40	.... Local Flood Warning Systems
E-41	.... Hydrologic/Hydrometeorologic Networks
E-42	.... Reporting Formats for Real-Time Data
E-50 to E-89 Unused	
E-90 to E-99 Miscellaneous	
E-90	.... Hydrologic Glossary
E-91	.... Hydrologic Handbooks

Training Video Now Available on Taking Marine Weather Observations

The Marine Observations Program of the newly formed Integrated Hydrometeorological Services Core has recently completed a video entitled "Voluntary Observing Ship Program—How to Collect Marine Weather Data." The film is intended primarily as a familiarization medium to assist in training mariners with observing, recording, and transmitting marine weather observations taken at sea. The targeted audience is the pool of voluntary marine weather observers located onboard the 7,000 ships currently reporting this data and operating in all the world's oceans. Anyone desiring further information or training purposes can contact me at 301-713-1677, ext. 129, or fax at 301-713-1598. 

—Vince Zegowitz, Integrated Hydrometeorological Services, WSH

(Editor's Note: For updates on the WSOM chapters, see attachment A.)

WCM Program

Field Multimedia Capable Laptop Assessment

This fall, WSH will conduct an assessment of multimedia development platforms at the local office level. Upon assessment completion, WSH and the regions will develop a strategy for the procurement and deployment of hardware and software to be used by field offices and support of field offices by WSH and the regions in the development of high-end multimedia presentations.

The assessment will compare two platforms—IBM PC and MAC. OM and Information Resource Center (IRC) staff will assess each system's respective multimedia development capabilities. IBM platforms will also be provided the ability to access real-time weather data sets and information for the development of on-site briefings. WSH and the regions have set the following goals for this assessment.

- Attempt to meet WCM desires for a multimedia laptop system to have a single portable medium to conduct first-class presentations and be able to develop their own presentations and modify nationally or regionally prepared materials.
- Meet stated needs for a portable device to support WFO operations during significant events and on-site meteorological support.

The issues at hand are as follows.

- What level of multimedia development capability should reside at the WFO level?
- Will WFOs require the ability to interface with regional and WSH multimedia capabilities?
- What degree of training will be required, and within the WFO, who should receive training?
- What level of system compatibility will be required?
- Should the ability to support operational requirements and multimedia be incorporated into a single system platform?
- Can the IRC support multimedia needs of the NWS's 118 WFOs and 6 regions, or will multimedia platforms be required at the regional level?
- Will it be easy to use?
- What will be the system cost?

OM will be using electronic mail to provide the field with periodic updates as to the status of the assessment.

—Rainer Dombrowsky, Customer Service, WSH

FEMA Exercise Planning Document

Recently, OM provided each regional WCM and the National Centers with copies of the *FEMA Comprehensive Exercise Program* (FEMA CEP). The document was provided to the regions for review, and at their discretion, the document could be provided to the field offices. The document provides a historical perspective of FEMA's involvement in exercises, defines new directions and opportunities, and details the FEMA CEP.

The CEP presents a comprehensive, all-hazard, risk-based exercise program that provides policy, guidance, and standards for exercise activities. It will establish partnerships among members of the emergency management community, including volunteer and support organizations. The CEP has six essential components:

- (1) a multiyear exercise schedule, containing events planned by all Federal departments and agencies as well as major exercises planned by state and local governments;
- (2) a single publication that provides details of the CEP and how it will operate;
- (3) training packages/courses for use at the region, state, and local levels for exercise designers, controllers, and evaluators;
- (4) a process for using various working and steering groups at the national and regional levels to oversee the CEP and its implementation;
- (5) exercises structured to cover the entire spectrum of hazards; and
- (6) a Corrective Actions Program that provides a formal process for identifying deficiencies and efficiencies in exercises and real-world events, tracking corrective actions to address deficiencies, and maintaining a "lessons-learned" data base.

OM strongly recommends that each of the offices acquire a copy of the CEP and work closely with state and local representatives in the development and execution of orientation, table top, functional, or full-scale exercises.

—Rainer Dombrowsky, Customer Service, WSH




WCMs – Have YOU contacted your State Training Officer to attend FEMA's Exercise Design Course?

Southern Region WCM Mentor/ Partnership Program

In November 1994, SRH developed a WCM Mentorship Program. In this Program, new WCMs were paired with experienced "mentors" who provided guidance and input. Pairings were made with operational considerations (CWA size, coastal/inland office, etc.) in mind. The Program provided the new WCMs with another resource when establishing the Warning Coordination, Customer Service, and Hazard Awareness Programs at their offices.

In the Program, mutual visitations and frequent contact were encouraged. While several WCMs were able to complete these visitations, others were unable to schedule visits and operated via


model output. The session culminated in a severe weather forecast exercise.

Forecast operations proceeded better than any of the NWS staff had hoped. The students quickly absorbed the severe weather concepts and were able to apply them in the operational environment. They understood the basics of the radar and forecast model displays and reached a point where they were making some warning decisions with relatively little input from the NWS staff. Project TWISTER was the subject of a feature article by the *Fort Worth Star-Telegram*, and a review of the project will be given at the AMS's 5th Symposium on Education in January 1996. 

—Gary R. Woodall, Judson W. Ladd, and Suzanne L. Nichols, SRH, Fort Worth, TX

Alaska Region Activities


■ Meeting with the Red Cross in Alaska.

Greg Matzen, Regional Warning Preparedness Meteorologist, and Dave Goldstein, Anchorage WSFO WCM, met with Ms. Joyce Brinkley of the American Red Cross in Anchorage. The meeting was set up as a result of what Greg and Dave learned from the Red Cross session held during the recent WCM Conference in Salt Lake City. Joyce is the Disaster Preparedness Director with the lead chapter of the Red Cross for Alaska. The meeting was quite productive in several ways. It led to WCM Dave Goldstein's participation in a dam failure exercise with a regional power company. 

—Greg Matzen, Warning Preparedness Meteorologist, Alaska Region Headquarters, Anchorage, AK


■ Participation in a Dam Failure Exercise

Anchorage WSFO, WCM Dave Goldstein, and Jerry Nibler, River Forecaster Center Hydrologist in Charge, participated in the Cooper Lake Dam Emergency Action Plan functional exercise. The dam is owned and

operated by Chugach Electric Company based in Anchorage. During the morning, time was spent with introductions, an exercise overview, and a look at film footage of an actual dam failure (Teton Dam). All players were given a complete orientation of the area and possible problems, resulting from a dam failure. A table-top exercise was conducted followed by a functional exercise with a simulated dam failure. The exercise was completed with a helicopter overfly of the dam site. 

—Dave Goldstein, WCM, WSFO Anchorage, AK

■ Regional Forecast Coordination Workshop

The Alaska Region held its first regional Forecast Coordination Workshop during August 15-16. The Workshop team was composed of WCMs and field and regional representatives. The workshop's mission was to create a strategy to effectively coordinate regional forecast products and services in the modernized Alaska Region. The goal was to develop a coordination process and implementation plan. The result of the workshop was a proposal for a multipanel graphic product to be produced by each forecast office in Alaska twice a day, representing the significant meteorological features (fronts, ridges, troughs, lows, highs) at 12, 24, 36, and 48 hours. The graphic product would be distributed to the other forecast offices and the CWSU, and then discussed over a telephone conference scheduled during the midnight and day shifts each day. The new Alaska Aviation Weather Unit (AAWU), which has statewide responsibility, will be the facilitator during the conference. The objective of the conference is to reach a consensus significant-features product that will be prepared and distributed by the AAWU. The coordination products and process are to be "beta-tested" by the forecast offices and the CWSU on the Alaska Region Operations Network in early December 1995 with operational implementation of the coordination process planned later for in December. 

—Greg Matzen, Warning Preparedness Meteorologist, Alaska Region Headquarters, Anchorage, AK



International Decade for Natural Disaster Reduction

Disaster Awareness Day — October 11, 1995

On Wednesday, October 11, 1995, FEMA's Family Preparedness Program broadcast the first in a series of "Act Now: Disaster Preparedness and Fire Prevention" videoconferences. The launch of the series was timed to coincide with Natural Disaster Awareness Day as a part of the International Decade for Natural Hazard Reduction (IDNDR), which is also the mid-point of National Fire Prevention Week.


The Act Now series focuses on bringing communities together to prepare their citizens. It was broadcast to communities around the country by FEMA's EENET satellite network and carried simultaneously by the American Red Cross's Business Television Network. Additional networks carrying the broadcast included the Fire Emergency Television Network and the Law Enforcement Television Network. Local cable stations and community colleges around the country also aired the program.

The October 11 program, "Building Support," was a 2-hour event and began at 1 p.m., EDT. The videoconference was an interactive

training event to help state and local emergency managers, fire department personnel, EMS personnel, Red Cross personnel, community disaster preparedness leaders, and interested volunteers to: (1) learn how to connect with other members of the community who care about disaster preparedness and fire prevention; (2) see what's being done by providing examples of outstanding local programs already in place; and (3) share ideas about the direction that public education for fire prevention, disaster preparedness and mitigation should take in the future. Among the participants were: Renee Fair, WCM, NWS; Capt. Greg Gibson, Los Angeles Fire Department; Rocky Lopes, Disaster Services Preparedness Division, American Red Cross; and Phil Shaemnan, Tri-Data.

The Act Now series is sponsored by the Family Preparedness Program and the U.S. Fire Administration in FEMA with assistance from the American Red Cross and the Family Preparedness Program's other partners.

For more information about the "Act Now: Disaster Preparedness and Fire Prevention" videoconference series, contact the EENET office at (301) 447-1068 or Ralph Swisher, FEMA, at 202-646-4584.

The second in this videoconference series is scheduled for February 22, 1996, and focuses on partnerships. Look for more information about the next videoconference in the Winter 1995/96 *Aware Report*. 

—Linda Kremkau, Customer Service, WSH


WCMS' Activities on Disaster Awareness Day

■ In observance of National Fire Safety and Fire Prevention Week, on Wednesday, October 11, 1995, FEMA sponsored an interactive videoconference to encourage community-wide action around disaster preparedness and fire prevention.

The live videoconference broadcast reached nearly 100,000 locations throughout the United States, involving state and local emergency managers, fire departments, and EMS personnel, American Red Cross, community disaster preparedness leaders, disaster service providers to "special populations," and volunteers.

I was one of eight participants on two different panels discussing the importance of community outreach and fostering partnerships. It was to share another method other than the traditional methods used in community outreach programs. The various methods discussed brought into focus the needs of the community to become proactive with Federal, state, and local officials and community leaders. The videoconference addressed the needs for: (1) responding to disaster preparedness and fire prevention information, (2) educating the community, (3) setting up an outreach program, (4) evaluating the disaster preparedness and fire prevention program, (5) recognizing the need for growth and expansion to the disaster preparedness and fire prevention program across your state or even in a selected community.

Sometimes community leaders take for granted that "educational outreach programs in their communities" are in place; or somebody else is already doing them. It is this reason I became involved. Efforts for education and mitigation are being made on three important projects I'm involved with: (1) working with the Arkansas Weathernet, Inc. (an organization of HAMS), to ensure coverage of the entire state, including remote areas via 2-Meter Repeaters during severe weather and/or natural disasters; (2) developing disaster preparedness plans for churches (starting with my own for a 75-church district) to incorporate methods of communications and evacuation plans during "core" church times and odd hours during "non-core" church times; and (3) providing a "soapbox" education method of natural disasters in Arkansas to "special populations."

Getting the word out means doing your "homework" to start the foundation for building support through the realization of partnerships in the community. 


—Renee Fair, WCM, WSFO Little Rock, AR

■ In conjunction with Disaster Awareness Day, I took a trip to Salina, Kansas, to watch the videoteleconference on natural disasters at the American Red Cross chapter there. Also, in attendance were emergency managers from the surrounding counties—the Salina fire chief, a news reporter from KSAL radio, and representatives from the local cable access TV station.

After the videoteleconference, we had a lively discussion about the partnership that exists between the NWS, emergency managers, Red Cross, and the media. We all agreed that the relationship was good, but there was room for improvement. As a result, we decided that we all need to coordinate more in our preparedness and outreach programs. Together, we are looking into several immediate joint projects. They are:

- (1) developing Public Service Announcements to be aired on area radio stations during Severe Weather Awareness week and all through severe weather season,
- (2) presenting joint spotter and weather safety talks where each agency has a role,
- (3) participating in radio talk shows, and
- (4) having a Kansas State Fair booth together.

Later that evening, we participated in a live interview show on the local access channel. There, we were able to promote the positive relationship we all have in preparing for, forecasting, and dealing with the aftermath of natural disasters.

Overall, this was a great experience to get this diverse group together and communicate. There are many ideas on the table and hopefully many more to come. The plan is to meet periodically and to work together to spread our messages. 

—John Ogren, WCM, WSFO Wichita, KS

IDNDR Testing New Children's Booklet

"Learning About Natural Disasters—Games and Projects for You and Your Friends" is a booklet produced for the 1995 IDNDR called for by the United Nations. This year's theme was "Women and Children—Key to Prevention," which took place on October 11, 1995. Each year, countries around the world use IDNDR Day as an opportunity to promote public awareness that people need not be fatalistic about disasters.

This is a booklet for children to help protect their community from natural hazards. It contains maps, games, and projects for children between 8 and 12 years old. Many of the ideas in this booklet are taken from projects done by children around the world. The booklet is designed to help young students:

- appreciate natural forces in the environment, and how to protect things important to them;
- consider the contributions they can make in their community by participating in disaster prevention and preparedness activities;
- exchange ideas with other children around the world in order to enhance their own safety and that of their community.

This booklet was published by STOP Disasters, the quarterly magazine for the IDNDR, and is being tested around the world. Approximately 18,000 copies have been distributed to STOP Disasters readers. Other copies were mailed to networks of international schools and youth groups, and national government agencies, international organizations, universities, and non-governmental organizations that have programs dealing with natural disasters.

If you would like a copy of this booklet or would like more information about IDNDR and disaster reduction programs in your area, please contact the IDNDR secretariat at the address below.

IDNDR Secretariat
UN Department of Humanitarian Affairs
Palais des Nations
1211 Geneva 10, Switzerland
TEL: 41 22 798 6894
FAX: 41 22 733 8695
E-mail: dhagva@un.org *A*

—Linda Kremkau, Customer Service, WSH

Publications and Audiovisuals

What's New!

■ National Audiovisual Center

The new slide set "Thunderstorms and Lightning...The Underrated Killers" has been approved for reproduction by the National Audiovisual Center (NAC). It will be available by October for sale at a cost of \$75.00. To order, ask for "AVA 19778.SS00." This slide set contains 141 slides and includes the Presenter's Guide.

Here's a list of other available slide sets from NAC.

Name	Order No.	Cost
Winter Storms...The Deceptive Killers	A19250.SS00	\$75
Tornadoes...Nature's Most Violent Storms	A19540.SS00	\$70
Hurricane Hugo	A18529.SS00	\$95
Hurricane Andrew	A19393.SS00	\$70
Advanced Met. Spotter Training Slides	A17568.SS00	\$115

For anyone interested in purchasing this slide set or any of the other slide sets, contact the NAC at the address below.

National Technical Information Service
National Audiovisual Center
5285 Port Royal Road, Rm. 1008
Springfield, VA 22161


Telephone Sales: (703) 487-4650
Customer Inquiry: (703) 487-4660
RUSH Service: 1-800-553-NTIS
Fax: (703) 321-8547

■ New Advanced Storm Spotter Video — "StormWatch"

This video was distributed in August to all the WCM's in the field offices. Anyone wishing to obtain a copy, please contact Gary Woodall, SRH, at 817-334-2812, or if you wish to borrow this video from WSH, contact me (Linda Kremkau) at 301-713-0090.

■ 1994 Summary of Natural Hazard Statistics

The Office of Meteorology now has available the "Summary of Natural Hazard Fatalities for 1994 in the United States" that includes deaths, injuries, and damage costs. These statistics were prepared by the Customer Service Core, using the information from Storm Data.

To summarize, weather and flood-related hazards in 1994 claimed 388 lives. This is slightly higher than 1993's total of 372 and the 10-year average which is 386 fatalities. Flash floods/river floods had the highest number of fatalities with 91; the 30-year average is 139 annually. Flooding still remains the number one weather-related killer. Twenty-nine lives were lost in Georgia from flooding because of Tropical Storm Alberto, and a considerable amount of property was damaged or destroyed. Lightning and tornado deaths tied with 69 each. On March 27, 1994, the southeastern United States was devastated by a series of killer tornadoes responsible for 42 deaths and over 320 injuries. July was the deadliest month with 72 fatalities. The deaths in July were the direct result of a combination of flooding from Tropical Storm Alberto in Georgia, extreme temperatures (i.e., heat) in Pennsylvania, and convection (i.e., lightning) in various states. In addition, over twice as many males (264) as females (124) were killed. 

—Linda Kremkau, Customer Service, WSH


What's Being Reprinted!

The three brochures listed below recently have been reprinted and are available at NLSC.

- Watch Out, Storms Ahead (NOAA PA 82004)
- Natural Hazard Watch and Warning Poster (NOAA PA 86001)
- Advanced Spotter's Field Guide (NOAA PA 92055).

Other publications that are out of print at this time are listed below. Hopefully, most of these publications will be restocked by late winter. Both the Heat Wave and NWR publications will be developed into in-depth, four-color brochures during FY 96.


- Spotter ID Card (NOAA PA 93060)
- Tornado...Nature's Most Violent Storms (NOAA PA 92052)
- Thunderstorms and Lightning...The Underrated Killers (NOAA PA 92053)
- Flash Floods and Floods...The Awesome Power (NOAA PA 92050)
- Heat Wave (NOAA PA 85001)
- NOAA Weather Radio (NOAA PA 76015) (see NOAA PA 94061)

In addition, we want to thank The American Red Cross, especially Rocky Lopes, for graciously providing additional supplies of the "Are You Ready" series which was sent to NLSC for use by our field offices. 

—Linda Kremkau, Customer Service, WSH


What's Upcoming!

■ New Basic Spotter Slide Set

I have been working on a draft of the basic spotter slide set, and it has completed its first review. Several insightful comments were received from the reviewers. Work is progressing at a steady pace to address the comments and concerns received from the reviewers. Unfortunately, with a number of major projects and activities planned for late April and much of May, the completion date for the second draft is unknown at this time. More on this project later. 


—Gary Woodall, MSD, SRH

■ Braille Weather Safety Pamphlets

Ron Jones, Data Acquisitions Program Manager (DAPM) at the WFO in Columbia, South Carolina, and I are working on a project to transcribe several of the weather safety pamphlets into braille. We will be working with the American Red Cross and several other organizations and plan to have braille copies ready for distribution during the next fiscal year. For further information on the braille project, contact me at NWS, 222 West 7th Avenue #23, Anchorage, Alaska, 99513, Tel: 907-271-6165, or Ron Jones, NWS, 2909 Aviation Way, West Columbia, South Carolina, 29170, Tel: 803-822-8038. 


—Carolyn Gurney, DAPM, WSFO Anchorage, AK

■ Low-Water Crossing Video

Over one-half of flood-related deaths occur in vehicles. Most of the deaths take place in dips in the highways called low-water crossings. Nighttime driving conditions restrict visibility and contribute heavily to the number of fatalities at low-water crossings. The Office of Hydrology is developing an 8-minute video geared to educating the public concerning the hidden dangers of low-water crossings. The video will stress how a relatively small water depth can cause a driver to lose control of the vehicle. Information will be provided on several misconceptions associated with driving in water. For example, people have extreme confidence in the size and weight of their vehicles. This false sense of safety can be catastrophic when the vehicle becomes buoyant. A shorter version of the video will also be distributed to the media for release to the public when the potential exists for flash floods and roadway inundation. For more information, contact Larry Wenzel, Office of Hydrology, at 301-713-0006. 

—Eugene A. Stallings, Office of Hydrology, WSH

■ "Flash Floods/Floods...The Awesome Power" Slide Resource Library and Presenter's Guide

The Flash Flood/Flood Slide Resource Library and Presenter's Guide is still in the process of development with assistance from the Office of Hydrology staff. The idea is to incorporate flood slides from "The Great Flood of 1993." The project is scheduled for distribution in the spring of 1996. 

—Linda Kremkau, Customer Service, WSH

■ **"Hurricanes...The Greatest Storms on Earth" Slide Resource Library and Presenter's Guide**

The "Hurricanes...The Greatest Storms on Earth" Slide Resource Library and Presenter's Guide will be prepared by Mary Jo Parker, WCM, WSO Wilmington, Ohio, with the assistance of Max Mayfield, NHC. Proposed completion date is set for spring 1996 for distribution in time for the hurricane season. *Incidentally, Mary Jo is looking for unique hurricane slides or photographs to include in this presentation so please feel free to contact her at 513-383-0031 or forward any slides to:*

NWS Office, NOAA
1901 S. State Route 134
Wilmington, OH 45177
Attn: Mary Jo Parker, WCM

As a side note, the Customer Service Core recently received a letter from "Ringling Bros.-Barnum & Bailey Combined Shows, Inc.," requesting that we immediately cease all further use of the phrase "The Greatest Storms on Earth" or any phrase which is confusingly similar to the famed slogan mark, "THE GREATEST SHOW ON EARTH," owned by Ringling Bros.

Unfortunately, the hurricane brochure entitled, "Hurricanes...The Greatest Storms on Earth" (NOAA PA 94050) will have to be renamed. NOAA General Counsel's response to Ringling Bros. was that NOAA would agree to rename the Guide in all future printings. General Counsel further explained that "NOAA operates under funding appropriated by Congress, and the American Red Cross uses dollars donated by the public for the purpose of making this valuable publication available. Neither entity can afford the cost of destroying or relabelling current inventories of the Guide and the resulting waste of taxpayer and donated dollars that such destruction/relabelling would cause. Further, to remove the Guide from circulation while replacement copies are printed would be of great detriment to the safety and well being of the public. Accordingly, NOAA and the American Red Cross will continue to distribute this important Preparedness Guide to the public until supplies are exhausted."

So please use up your supplies of the hurricane publication. Do not throw any of these publications away. Our goal is to have a new cover prepared and have the entire brochure reprinted in time for the 1996 hurricane season. The hurricane slide resource library should be available by late spring which also will have the new hurricane title incorporated into it.

In the meantime, we need to come up with a new title—any ideas! Please forward any thoughts on this matter to me or to Mary Jo Parker, WCM, NWSO Wilmington, Ohio.

—Linda Kremkau, Customer Service, WSH

Other Hazard Awareness Materials

■ **Update on Dissemination of NWS/Red Cross Co-Developed Materials**

The following statistics represent Community Disaster Education materials ordered by Red Cross chapters since their development. The numbers clearly demonstrate these are among the most popular materials ever made available.

The American Red Cross uses donated funds to reproduce these materials. When a strong coalition is in place to reach people in the community with important information, the Red Cross can consider making reasonable quantities of materials available to support coalition efforts. However, if there is no coalition in place, the Red Cross should not be expected to provide materials or serve as a source of "free stuff."

Please develop a relationship with your local Red Cross and consider audiences that need to be reached. Develop a plan to reach them. No one organization can reach everyone in the community or as much as they would like to reach them. Together, we can reach more people and have a safer community.

Contact your local Red Cross chapter for information and to develop an educational coalition. Red Cross chapter jurisdictions and NWS service jurisdictions are often not the same. It may be necessary to contact multiple Red Cross chapters within NWS service areas. If you are unsure whom to contact, or if you are developing a statewide event (such as a weather awareness week), contact your local Red Cross chapter, ask for the Disaster Services Department, and ask which chapter in your state serves as the "Lead Chapter" for Disaster Services. This "Lead Chapter" is the one with which you should coordinate large, multijurisdictional events.

If you have access to the Wide World Web, consult the Red Cross Home Page at <http://crossnet.org>. Information about our services and locations (with addresses and telephone numbers) across the country is readily available.


—Rocky Lopes, American Red Cross National Headquarters

Subject	Red Cross/NWS "Are You Ready" Brochure	NWS/Red Cross 12-page, 4-color in-depth brochure
Winter Storms	13,405,000	4,410,000
Flash Floods/Floods	23,800,000	10,320,000
Tornado	15,900,000	6,750,000
Thunderstorm	9,870,000	8,307,000
Hurricane	17,850,000	4,150,000
TOTAL	80,825,000	33,937,000

■ FEMA's Hurricane Mitigation/Preparedness Videos

The following are several videos available from FEMA. Send requests to:

Federal Emergency Management Agency
P.O. Box 70247
Washington, D.C. 20024
Tel: 1-800-638-6620

- **"Hurricane: Prepare to Survive"** (General Audience—Running time 20:35, includes handout)
A remake of "Hurricane: It' NOT Just Another Storm" based on the experiences of Hurricane Andrew. Provides guidance on actions to take before, during, and after a storm.
- **"Against the Wind"** (Homeowners and General Audience—Running time 18:12, includes 8-page brochure, English and Spanish)
Step by step instructions for protecting a home from hurricane winds.
- **"Hurricane Watch—Preparing for the Uncertain"** (Local Public Officials Decision Makers—Running time 34:19)
Provides information on the hazards associated with hurricanes and the unpredictability of these storm events.
- **"Jason and Robin's Awesome Hurricane Adventure"** (Third through Fifth Grade—Running time 12:00, includes 12-page, full color activity booklet)
Video and activity booklet for school children and their families on how to prepare for and respond to a hurricane.
- **"Stormwatch!—Hurricane Preparedness for Hospitals"** (Hospital Administrators and Staff—Running time 68 minutes)
Provides guidance and instruction for hospital staffs for improving their readiness for hurricanes. Also includes eyewitness accounts of hospital experiences of hurricanes over the past 25 years.
- **"Hurricane: It's NOT Just Another Storm"** (General Audience)
A three-part video consisting of: (1) a 20-minute presentation designed to provide general information to the public concerning hurricane preparedness and awareness. Based on lessons learned during Hurricane Hugo; (2) a 2-minute presentation showing how the technical information developed as part of a comprehensive hurricane study for a community can be utilized to better prepare residences for future storms; (3) six, 1-minute sample public service announcements. 

—Bill Massey, FEMA Region IV, Atlanta, GA

The Weather Channel's "On-Air Schedule"

This is a continuing part of the *Aware Report* to provide you with an "On-Air Schedule" from The Weather Channel for live and current forecast weather programs (see below).

On-Air Schedule

The Weather Classroom 10-minute program airs Monday-Friday at 1 pm ET. See specials and new topics highlighted on the fall schedule below. The Weather Classroom will no longer air at 4 pm and 1 am ET.


Mon.	27	Nov	Lake Effect
Tue.	28	Nov	Wind Chill/Heat Index
Wed.	29	Nov	Doppler Radar
Thu.	30	Nov	River Flooding
Fri.	1	Dec	Lightning
Mon.	4	Dec	<u>Hurricane Season Wrap-Up</u>
Tue.	5	Dec	Water Cycle
Wed.	6	Dec	El Niño
Thu.	7	Dec	Clouds
Fri.	8	Dec	Winter Precipitation
Mon.	11	Dec	Fronts
Tue.	12	Dec	Sun Dogs & Rainbows
Wed.	13	Dec	Heavenly Skies
Thu.	14	Dec	Energy
Fri.	15	Dec	Meteorology Field Trips
Mon.	18	Dec	Nor'Easter
Tue.	19	Dec	Wind Chill
Wed.	20	Dec	Lake Effect
Thu.	21	Dec	Blizzards & Winter Storms
Fri.	22	Dec	Seasons
Mon.	25	Dec	Wind
Tue.	26	Dec	Great Weather Catastrophes
Wed.	27	Dec	Tornadoes
Thu.	28	Dec	Winter Precipitation
Fri.	29	Dec	Flooding 

—Education Services Department, The Weather Channel

Aware Report Roster

Attachment B is the *Aware Report* Roster which lists all the WCMs in each of the NWS Regions. Notice that there are several new WCMs and new offices added to this list. If there are any changes, please notify me at 301-713-0090.

Also, if you know of someone who would like to be placed on the *Aware Report* distribution list, please have him or her contact the Customer Service Core. We now have about 1,000 individuals receiving the *Aware Report* throughout the NWS and the natural hazard community.

In addition, everyone on the *Aware Report* distribution list should have received a purge card. Please respond on this card if you are still interested in receiving the *Aware Report* and return the card. Unfortunately, if we do not receive the returned purge card, your name will be dropped from the distribution list. This is done on a yearly basis to maintain as current a list as possible. 

—Linda Kremkau, Customer Service, WSH

WSOM Chapters	Status
B-16, Marine Reporting Station	To be updated in 1996.
B-18, Agricultural Weather Observations	Will be updated or cancelled in 1996.
B-19, Fire Weather Stations	Will be updated and consolidated with D-06 in 1996.
B-30, Voluntary Observing Ship Program	To be updated in 1996.
B-55, Distribution and Use of Satellite Data	Requires a total update; earliest draft early to mid-1996.
B-90, Special Warning Program Observations	To be updated in 1996.
C-10, State Forecast	Update for 7-day state forecast expected in spring 1996.
C-11, Zone and Local Forecasts (main section)	Work will begin on a draft revision in 1996.
C-11, Zone and Local Forecasts (Appendix A)	Update issued October 3, 1995.
C-12, 6- to 10-Day, 30-Day, and 90-Day Outlooks	Revised chapter for "long lead" outlooks was issued in January 1995. OML for 8- to 14-day Outlook expected in spring 1996.
OML to C-20, National Public Weather Products; C-44, Non-Precipitation Weather Hazards; C-64, NOAA Weather Radio Program	OML for dissemination of Ultraviolet indices issued June 5, 1995.
OML to C-21 on Short Term Forecast	Replace with separate chapter mid or late 1996.
C-40, Severe Local Storm Warnings	The chapter was released and implemented during March 1995. While it does not include aspects of the convective watch decentralization (scheduled to begin August 1996), it does feature a focus on Short-Term Forecast (Nowcast) concepts. The introduction of the Nowcast affects other products, including warnings and statements. In addition, an OML to C-40 has been released. It modifies the Local Storm Report (LSR) to conform with the WMO's 69 character-per-line limit in text products.
C-41, Tropical Cyclone Program	The review process for updating WSOM Chapter C-41 has begun. The regional MSDs have been asked to solicit agenda items for the December NOAA Hurricane Conference. OM strongly recommends that all field offices actively participate in the review of the Tropical Cyclone Program. Meet with your customers and ask, "How well did we meet your needs."
C-45, Meteorological Discussions and Forecast Coordination	OML expected in spring 1996 for guidance products on days 6 and 7 and 8- to 14-day Outlook. Begin rewrite of entire chapter late in 1996.
C-47, County Warning Areas	Latest appendix issued May 1, 1995. Ongoing public information statements are updates. Next appendix issuance expected by summer 1996.
C-43, Coastal Flood Program	OML to be issued describing NOS NGWLMS and real-time tide water level access.
C-49, Warning Coordination and Hazard Awareness	The Customer Service Core of OM will begin the review and update process for C-49 in early December. The first draft should reach the field for review early in 1996. Our goal is to have the chapter updated no later than the end of the summer. Evaluate option for merging Chapters C-45 and C-49.
C-60, Radio/TV Dissemination; C-61, Telephone Dissemination; C-62, Newspaper Dissemination; and C-67, News Wire Dissemination	Work will begin on updating and probably consolidating these chapters late in 1996.
C-66, Dissemination of Public Warnings	Consolidate into chapter C-49 by late 1996.
D-05, Agricultural Weather Services	Will be updated or cancelled in 1996.
D-06, Fire Weather Services	Will be updated in 1996 and consolidated with B-19.
OML to D-06, Duties of IR Mets Requiring Exposure to Hazardous Situations	Has been approved; due out very soon.
D-07, Fire Weather Services	To be updated in 1996.
D-21, Aviation Terminal Forecasts D-37, International Aviation Aerodrome Forecasts	Draft of D-31 (merge of D-21 and D-37) is in the process of being released to the field for comments.
Special Aviation Forecasts and Events Aviation Liaison and User Support Program	Preliminary work to update, adjust, and reassign the contents of these chapters has been completed. Awaiting ASB resources to complete the job.

WSOM Chapters

Status

D-25, Support to Air Traffic Facilities

It is on hold until further notice. Awaiting OSO to affect some communication header changes which they tell us will be ready by the beginning of next year.

D-30, Transcribed Weather Broadcast Text Products

Aviation Services Branch has FAA route forecast revalidation. An OML will be NWS coordinated in summer 1995.

D-40, Agricultural Weather Products

Will be updated or cancelled in 1996.

D-51, Marine Services for Coastal, Offshore, and High Seas

Appendices C - H, dealing with USCG broadcasts of Marine Weather Products, are being consolidated into a separate Marine Dissemination Guide.

D-52, Marine Services for the Great Lakes

Appendix B on reconfigured coastal marine forecast areas will be updated, and maps will be added showing boundary demarcations.

OML to D-52, Marine Services for the Great Lakes

To be updated in 1996.

D-80, Familiarization Flights

The OML was issued April 27, 1995. This OML modifies the headers of the Open Lake Forecast (GLF) and includes attachments that list current and future marine forecast responsibilities.

F-42, Storm Data and Related Reports

Minor changes will be coming out before the end of this year. The substantive change will be for the met to add their D-11 card number to the D-27 Report form so that the list of those that have the card can be actively updated and the flights tracked more efficiently.

F-60, Tsunami Warning Service

Implementation effective with the July 1994 Storm Data. Although the chapter is built around Paradox Storm Software, that software has been shelved pending optimization by a professional Paradox programmer. In the meantime, Storm Data authors are to conform to the new chapter as closely as possible, using WordPerfect 5.1 software. The optimized Paradox software should be ready by January 1996.

F-61, Earthquake Reporting Program

The second draft was distributed the end of September 1995. Pacific Region and OM12 should have it to the final draft stage by the beginning of the new year. The new F-60 should hit the streets next year.

The third and final draft was distributed for concurrence in October 1995.

NWS Headquarters Staff

301-713-0090

Donald Wernly	Chief, Customer Service Core	Ext. 138
Linda Kremkau	Technical Publications Editor	118
Bill Alexander	Mesoscale Manager	115
Rainer Dombrowsky	Warning Coordination Manager	116
Rod Becker	Dissemination Services Manager	114
Ron Berger	Special Services Meteorologist	117
Chris Adams	Senior Social Scientist	121
Bob Kuessner	Forensic Services Manager	145
Bill Kneas	Public Safety Meteorologist	141
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Charles Kluepfel	Quality Assurance Meteorologist	140
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Eastern Region

<u>Rick Watling</u>	Regional (Focal)	516-244-0123	Larry Gabric	Cleveland, OH	216-265-2370
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Herb White	Binghamton, NY	607-729-7629	Dan Bartholf	Newport, NC	919-223-5122
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Glenn Field	Boston (Taunton), MA	508-823-1900	Joe Miketta	Philadelphia, PA	609-261-6600
Stan Levine	Buffalo, NY	716-565-0204	James Weyman	Pittsburgh, PA	412-262-1591
Steve Hogan	Burlington, VT	802-862-2475	John Jensenius	Portland (Gray), ME	207-688-3210
Tom Dunham	Central PA (State College)	814-234-9412	George Lemons	Raleigh, NC	919-860-1234
Jerry Harrison	Charleston, SC	803-744-3207	Bill Sammler	Wakefield, VA	804-899-4200
Mike Washington	Charleston, WV	304-746-0180	Barbara Watson	Washington, DC	703-260-0107
Mary Jo Parker	Cincinnati, OH	513-383-0031	Tom Matheson	Wilmington, NC	910-762-4289

Southern Region

<u>Gary Woodall</u>	Regional	817-334-2812	Larry Vannozzi	Lubbock, TX	806-745-4260
Ed May	HSD Chief	817-334-2674	Dennis Decker	Melbourne, FL	407-255-0212
Keith Hayes	Albuquerque, NM	505-243-0702	John White	Memphis, TN	901-757-6400
Douglas Crowley	Amarillo, TX	806-335-1121	Jim Lushine	Miami, FL	305-229-4522
Barry Gooden	Atlanta, GA	404-486-1333	George Mathews	Midland/Odessa, TX	915-563-5006
Larry Eblen	Austin/San Antonio, TX	210-629-0130	Gary Beeler	Mobile, AL	334-639-6625
Brian Peters	Birmingham, AL	205-664-3010	Howard Waldron	Morristown, TN	615-586-3771
Don Ocker	Brownsville, TX	210-504-1432	Jerry Orchanian	Nashville, TN	615-754-4633
Vacant	Corpus Christi, TX	512-289-0959	Frank Revitte	New Orleans, LA	504-522-7330
Jack Mercer	El Paso, TX	505-589-4088	Jim Purpura	Norman, OK	405-366-6583
Jim Stefkovich	Fort Worth, TX	817-429-2631	Richard May	San Angelo, TX	915-944-9445
Gene Hafele	Houston/Galveston, TX	713-337-5074	Rafael Mojica	San Juan, PR	809-253-4586
James Butch	Jackson, MS	601-936-2189	Bruce Burkman	Shreveport, LA	318-631-3669
Fred Johnson	Jacksonville, FL	904-741-4370	Bob Goree	Tallahassee, FL	904-576-6318
Roger Erickson	Lake Charles, LA	318-477-5285	Walt Zaleski	Tampa, FL	813-645-2323
Renee Fair	Little Rock, AR	501-834-0308	Steve Piltz	Tulsa, OK	918-832-4115

Central Region

<u>David Runyan</u>	Regional	816-426-3239	David Tucek	Indianapolis, IN	317-856-0361
Lee Larson	HSD Chief	816-426-3220	Bill Bunting	Kansas City, MO	816-540-5147
Hector Guerrero	Aberdeen, SD	605-225-5547	Todd Shea	LaCrosse, WI	608-782-4533
Kathy Hoxsie	Alpena, MI	517-354-8733	Norman Reitmeyer	Louisville, KY	502-969-8842
Daniel Noah	Bismarck, ND	701-250-4224	Jack Pellett	Marquette, MI	906-475-5782
Joseph Sullivan	Cheyenne, WY	307-772-2468	Rusty Kapela	Milwaukee/Sullivan, WI	414-297-3243
Jim Allsopp	Chicago, IL	815-834-0600	Todd Krause	Minneapolis, MN	612-725-3741
James Meyer	Davenport, IA	319-391-6729	Gene Bowman	North Platte, NE	308-532-4936
Robert Glancy	Denver, CO	303-361-0661	Brian Smith	Omaha, NE	402-359-2394
Jeffrey Johnson	Des Moines, IA	515-270-4501	Ricky Shanklin	Paducah, KY	502-744-6440
Gary Campbell	Detroit/White Lake, MI	313-625-3309	Tom Magnuson	Pueblo, CO	719-948-9429
Jeff Hutton	Dodge City, KS	316-227-7140	Susan Anderson	Rapid City, SD	605-341-9271
Carol Christenson	Duluth, MN	218-720-5255	Donald Noll	Riverton, WY	307-857-3898
Dennis Hull	Goodland, KS	913-899-2360	Todd Heitkamp	Sioux Falls, SD	605-330-4247
Jim Belles	Grand Forks, ND	701-772-0720	Rod Palmer	Springfield, IL	217-732-4029
James Pringle	Grand Junction, CO	303-243-0914	Steve Runnels	Springfield, MO	417-863-1456
John Kottke	Grand Rapids, MI	616-956-5922	Jim Kramper	St. Louis, MO	314-447-1876
Jeff Last	Green Bay, WI	414-494-5845	Mike Akulow	Topeka, KS	913-232-1493
Steve Kisner	Hastings, NE	402-462-2127	John Ogren	Wichita, KS	316-942-8483

Western Region

<u>Richard Douglas</u>	Deputy MSD Chief	801-524-4000	Peter Felsch	Missoula, MT	406-329-4841
Bob Tibi	HSD Chief	801-524-5137	Rob Doherty	Pendleton, OR	503-276-4493
Chuck Bikle	Billings, MT	406-657-6988	Mike Franjevic	Phoenix, AZ	602-379-4611
Carl Weinbrecht	Boise, ID	208-334-9860	Bruce Bauck	Pocatello, ID	208-233-0834
Ed Clark	Elko, NV	702-738-3018	Dan Keeton	Portland, OR	503-261-9247
John Lovegrove	Eureka, CA	707-443-6484	Roger Lamoni	Reno, NV	702-673-8107
Chris Cuoco	Flagstaff, AR	602-635-1492	Roger Pappas	Sacramento, CA	916-442-1468
Dan Gudgel	Fresno, CA	209-584-0583	Dave Toronto	Salt Lake City, UT	801-524-5113
Kimberly Bailey	Glasgow, MT	406-228-2850	Wilbur Shigehara	San Diego, CA	619-297-2107
Lynn Valtinson	Great Falls, MT	406-453-2081	Charles Morrill	San Francisco, CA	408-656-1725
Ron McQueen	Las Vegas, NV	702-736-6404	Ted Buehner	Seattle, WA	206-526-6095
Tim McClung	Los Angeles, CA	805-988-6610	Ken Holmes	Spokane, WA	509-353-2368
John Casad	Medford, OR	503-773-1067	Paul Flatt	Tucson, AZ	602-294-2522

Alaska Region

<u>Greg Matzen</u>	Regional	907-271-3507
David Goldstein	Anchorage	907-266-5117
John Lingaas	Fairbanks	907-456-0435
Robert Kanan	Juneau	907-586-7493
George Carte	Palmer (ATWC)	907-745-4212

Pacific Region

<u>James Partain</u>	Regional	808-541-1671
Thomas Heffner	Honolulu, HI	808-973-5270
Malcolm Hargrave	Guam	(011) 671-344-4160
Akapo Akapo	Pago Pago (Focal)	(011) 684-699-9130

NCDC - Storm Data

<u>William Angel</u>	Asheville, NC	704-271-4459
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