disaster preparedness report

National Weather Service

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WHAT'S HAPPENING IN DISASTER PREPAREDNESS

o Establishment of a National Weather Event Database and Automation of the F-8 Report Almost 2 years ago at the Warnings Preparedness Meteorologist Conference in Norman, Oklahoma, the Warning and Forecast Branch accepted the goals of establishing a national weather event database and automating the F-8 report. Following considerable coordination within Weather Service Headquarters (WSH), National Severe Storms Forecast Center (NSSFC), the University of Chicago, and the National Environmental Satellite, Data, and Information Service (NESDIS), we are proud to say that specific actions are underway which should ensure implementation.

Currently, two databases (weather event and mortality) are maintained at the WSH, and it will continue to be maintained here until all aspects of the new system are completed. NSSFC has begun procurement of the necessary hardware and software. This includes a PC, printer, document reader, and database software for the Data General computer. In addition, a PC, laser printer, and Word Perfect version 5.0 are being purchased for the University of Chicago in order to automate much of the publication of Storm Data.

Eventually, data from field offices will be sent to the National Weather Event Database at NSSFC electronically via the Upgraded NOAA Weather Wire Service. NSSFC will collect the reports and send a consolidation of the data to the University of Chicago for publication of Storm Data. The database software will prepare and maintain event and mortality statistics. NSSFC will provide output on these statistics to field offices. The database will be accessible to WSH and the Regional offices. Thus all NWS offices will have access to the same database which will have the most current information on severe weather events and fatalities. We hope to accomplish all this by early 1990.

Transition to this system will occur in two phases. Phase 1, or Interim Operations, will begin once all the equipment is in place. At that time, WSFO's will send the F-8 report, preferably on a floppy, to NSSFC. They will also send a dot matrix copy to WSH. For the first month of data, offices will also need to send to the University of Chicago the publish-ready copy while they become proficient with the PC publishing capabilities. NSSFC will load the F-8 data into the database, consolidate the field office input, and send the complete package to the University of Chicago. They, in turn, will edit the file for publication of Storm Data. Detailed instructions, including time-table, will be sent to the Regions soon.

To complete Phase 2 of this project, NSSFC will develop the database. WSH, in coordination with the Regions and NSSFC, will determine any changes in data requirements, format for the F-8 data, and procedures for transmission over the Updated NOAA Weather Wire Service. Field offices are encouraged to work with their regions concerning all aspects of event reporting and types of output they would like to see from the National Weather Event Database. Once the various formats and data requirements have been determined, a new WSOM Chapter F-42 will be issued. At that point implementation of the final operations plan will begin.

o 1988 Summary of Natural Hazard Deaths Attached to this DP Report is a copy of the Summary of Natural Hazard Deaths for 1988 in the United States. There was a total of 316 deaths from severe weather. Lightning again led the list with 68 deaths, followed by snow/blizzards with 48, and heat with 41. August was the deadliest month in 1988 with 61 deaths. Please feel free to separate this summary from the DP report and use as a source of information.

o WSH Natural Hazard Mortality Statistics The goal of the National Weather Service warning program is to reduce fatalities due to severe weather. To do this, we need to assess what events are killing people, tailor the warning program to these events, and develop viable hazard awareness materials. In this regard, mortality statistics in the weather event database are very important. In order to evaluate our progress, we must have as complete and accurate accounting of weather-caused fatalities as possible.

Reviewing F-8's, Storm Data, from the past year has pointed up some weaknesses in our reporting system -- mostly insufficient information concerning deaths. WSOM Chapter F-42, Storm Data and Related Reports, states that WPM's or Focal Point's should report information on age, sex and location for each fatality. It is very important that we have this information if at all possible. Sending in missing or unknown data results in a call from WSH to try to ascertain if more information is available. What we're looking for in the Mortality database is the age, gender, location (i.e., open, tree, mobile home, etc.), state, county, date, and time. Again, we plan to update WSOM Chapter F-42 by early 1990, and it will reflect these new changes.

If the WPM or Focal Point is having difficulty in finding information concerning a death, there are other sources of mortality information besides those listed in chapter F-42. Perhaps the most reliable are the county and city coroners offices and state medical examiners offices.

Concerning format procedures, please follow the coded format as stated in chapter F-42. A good example of complete information is:

Jones County 24 2010CST 2 0 0 Flash Flood
A man and his wife were killed when flood waters
from Spring Creek swept their car off Highway 100.
M43V F40V

An example that is missing valuable data:

Smith County	16		1	0	0	Heat

An elderly Greenville man was found dead on the 16th. The medical report listed excessive heat as the cause of death.

The good part, the medical report listed heat. Remember heat-related or cold-related deaths are considered directly related (i.e., hypothermia/heat exhaustion). The bad part, missing is where the death took place, such as permanent home, vehicle, outside, etc. Also, the person's age is missing. Although elderly gives us an idea, it doesn't fit into the statistical database. In addition, it doesn't include the coded format (i.e., M79P) or the time of the occurrence. If you put in a question mark because you weren't able to find the missing information, we will probably give you a call to verify that you've exhausted all avenues to obtain the information.

An example that missed the boat completely:

Coast and Mountains	15	1800	7	1	6	0 High Winds/ Seas and Heavy Snow

An intense storm off the coast produced heavy snow in the mountains along with highs winds along the coast. Winds to 80 mph were reported near Bigtown. Avalanche activity was numerous along the highway south of town blocking the highway.

This example shows "7" fatalities in the header line but no mention of what happened in the narrative. Also, no coded information about the people that were killed. We have no way of using this data in mortality statistics.

Another problem concerning mortality statistics is whether a death was directly or indirectly related to weather. In general, a direct fatality is one in which weather was the primary cause of death. As an example, a tornado destroys a shopping center and 15 people inside are killed as a result.

An indirect fatality is one in which weather was a contributing factor but not the primary cause of death. Example of indirect fatalities include a heart attack while shoveling snow, traffic fatality by losing control of a car on wet or icy roads, etc. Note, however, driving into flooded roadway is considered a direct fatality. There is plenty of grey area on this issue. On occasions, we have counted as direct those fatalities occurring in massive multiple car pile ups due to fog or dust.

It would be nearly impossible to include all possibilities. If you're in doubt, count it as a death statistic or feel free to call your regional office or WSH to discuss any matters concerning any information going into the F-8's.

o NWS Brochures This spring we've been in the process of replenishing some of our more widely used awareness materials. Below is a list of seven brochures plus the SKYWARN Decal and "The Naming of Hurricanes" which have been reprinted along with the number of copies printed. Most of the brochures are now available from the Kansas City Warehouse. Two brochures that will be restocked by the end of May are "Winter Storms" (NOAA PA 79018) and "Thunderstorms and Lightning" (NOAA PA 83001). In addition, "The Naming of Hurricanes" has been revised. We are printing 5,000 copies, and they too will be available by the end of May.

Please remember that the cost of duplicating these pamphlets has escalated these last few years so use them wisely. As an example of the problems we are having, last year it cost $8.8K to print 50,000 copies of "Watch Out, Storms Ahead." The cost rose to over $12K this year. So unfortunately with this brochure, we had to cut the number of copies to 25,000.

NOAA PA	Name	Copies
81011	Spotter's Guide for Reporting Severe Local Storms	50,000
82004	Watch Out, Storms Ahead	25,000
83001	Thunderstorms and Lightning	75,000
84001	SKYWARN Spotter's ID Card	50,000
86001	Natural Hazard Watch and Warning Poster	20,000
78019	Storm Surge and Hurricane Safety	50,000
79018	Winter Storms	75,000
	SKYWARN Decals	10,000
	The Naming of Hurricanes	5,000

o National Weather Service (NWS) Community Outreach Visitation Program (COVP)

The NWS is dedicated to science education. The NWS provides speakers and/or tours on meteorology and related sciences to schools, colleges, universities, civic and community organizations.

Our speakers cover the basics of weather forecasting, from the collection of observations through the analysis of collected information and the final preparation and dissemination of the warnings and forecasts. The speakers bring with them a rich collection of details on specific and interesting weather events. They also have detailed knowledge of the climatology in specific areas and can call upon this background for their presentations. Our tour sites provide an inside look at the operations and equipment used in forecasting and how forecasting interacts with the public.

In the District of Columbia, Maryland, and Virginia area, the NWS maintains an active educational outreach program. A cadre of more than 40 speakers are available to respond to your requests.

If you are interested in a speaker and/or tour in the Washington, D.C., area, we will need at least 2 weeks notice. For further assistance with your request, please contact Carol Sikora, Community Outreach Visitation Program Coordinator at (301) 427-7718/7634. We hope that our program will be an enrichment to all.

o Private Sector Initiatives Recently, Eastern Region National Weather Service forecast offices fostered two private sector initiatives.

-- Alan Rezek, Area Manager/Meteorologist in Charge, and Jerry Orchanian, Meteorologist, Weather Service Forecast Office Charleston, West Virginia, induced the Kroger Supermarket chain to print flash flood safety information on their plastic grocery bags. These bags will be used in 114 Kroger Supermarket stores in six states. This area covers eastern Kentucky, southeastern Ohio, West Virginia, western Virginia, northeastern Tennessee and selected locations in North Carolina. In North Carolina, they will appear in the major cities of Raleigh-Durham, Winston-Salem, and Fayetteville. Distribution of the bags will begin in early April.

-- Roland Loffredo, Area Manager/Meteorologist in Charge, and Tim Scrom, Hydrological Technician, Weather Service Forecast Office Albany, New York, induced the Golub Corporation, the parent company for Price Chopper Supermarkets, to reprint the National Oceanic and Atmospheric Administration Winter Storm Awareness poster, NOAA PA 78022, and to distribute them to their customers as a public service. The Golub Corporation printed and distributed 15,000 copies to over 100 of their supermarkets in western New England, eastern New York and central Pennsylvania during early February. The public feedback to Golub was that their campaign was a big success.

SEVERE WEATHER AWARENESS ACTIVITIES

o Kansas Severe Weather Awareness Week In preparation for its severe weather preparedness week, WSFO Topeka sent mailings to an impressive list of affected organizations. Information packets were sent to all 48 daily, 216 weekly, and 11 farm publications; all 156 radio and 22 television stations; all 105 county sheriffs; all 105 county commissions; all 62 police departments and city marshals in the WSFO County Warning Area; all 57 directors of campus safety at colleges and universities; all highway patrol offices; the State Department of Education for distribution to all elementary and secondary schools.

o Tornado Safety Poster Contest in Nebraska Art Strong, MIC(AM) for Nebraska, and Gary Wiese, WPM Focal Point, along with representatives of State Civil Defense, did the final judging of the 1989 Tornado Safety Poster Contest on March 27. Over 1,700 entries were received from fourth graders across the State. Preliminary judging had reduced the final number to 50. The winning poster will be reproduced and used statewide in conjunction with this year's preparedness programs. The top three finalists will receive special recognition with the winner receiving a number of prizes contributed by various businesses and the State.

o Flood Awareness in Nevada The WSFO Reno, in conjunction with the Office of Emergency Management at Carson City, Nevada, has requested that the Governor of Nevada declare the week of June 9-16, 1989, as Flood Awareness Week. This would correspond with the Flood Awareness Week planned by the Citizens Advisory Committee to the Clark County Regional Flood Control District. The Flood Awareness Week will present the opportunity to highlight advances made in Nevada's local flood warning ALERT program.

o Hawaii Disaster Preparedness Activities Karl Turner, Acting Disaster Preparedness Focal Point for WSFO Honolulu, continues to be actively involved in community activities. Many tours and visits have been conducted involving schools and other civic organizations. Over 300 Oahu civil defense volunteers toured the Honolulu WSFO during January and February 1989 to learn more about National Weather Service operations in terms of weather watches and warnings. More than 40 of these CD volunteers signed up to become weather spotters.

A major event is scheduled for July 6 when the NWS and University of Hawaii School of Meteorology jointly host a hurricane workshop.

NEW AWARENESS MATERIALS

o New Weather Safety Brochure Available "Operation WeatheReady" offers a new weather safety tips brochure through many local television stations across the country. The pamphlet (see attachment A) was produced by the Eveready Battery Company, Inc., in consultation with the National Weather Service, NOAA. The safety tips have been reviewed as accurate by the National Weather Service. Please note that the National Weather Service does not endorse consumer products. Our interest is solely in disseminating weather safety information. Copies of the new, colorful brochure have been sent to the National Weather Service Regional Headquarters for distribution to the field offices. Additional copies should be obtained through local sponsoring television stations.

o Big Bird Kicks Off Earthquake Awareness Week On April 5, Big Bird showed up on Capitol Hill in Washington, D.C., with other dignitaries and lots of children to kick off the first National Earthquake Awareness Week. During this awareness week, Federal Emergency Management Agency (FEMA) released the Children's Television Workshop's (CTW) "BIG BIRD Get Ready™ for Earthquakes" family kit. This is the second kit in CTW's series on natural hazards. The earthquake kit contains a brochure for parents and children on earthquake safety with essential information also in Spanish. The board game "Quake" appears on the back side of the brochure. The kit also includes a cassette with stories and the new hit song "Beatin' the Quake," sung by Little Chrissy and the Alphabeats.

Those interested can receive one free copy, while supplies last, by writing to:

BIG BIRD Get Ready™ for Earthquakes Kit
FEMA
P.O. Box 70274
Washington, DC 20024

CTW is currently developing a kit on floods and flash floods. They are also developing a Presenter's Package for anyone involved in community safety to use as a guide on how to make the most effective use of the BIG BIRD materials.

o State Farm Insurance Promoting Tornado Safety The State Farm Insurance Company has produced a video tape called Funnel Facts and Fables, along with a public service announcement on watches and warnings and a brochure. They are all well done. You may see these on local television stations or distributed through other media. This is just to make you aware of their efforts. If you want to look at the material, contact a local agent who may have them on hand or could get a copy of one.

ITEMS OF INTEREST FROM THE WARNING AND FORECAST BRANCH

o Boy Scout Jamboree On August 1-8, 1989, the National Scout Jamboree will be held at Ft. A. P. Hill, Virginia. Usually about 25,000-30,000 persons attend the Jamboree which is held every 4 years. The National Weather Service plans to exhibit a variety of weather monitoring and forecasting equipment including: radar units, rain and wind gauges, and weather balloons. NWS will be colocated with NESDIS, and they will exhibit a down-link terminal displaying imagery obtained from the GOES satellite. We also plan to have a VCR showing tapes of weather related subjects, poster displays, and operational NOAA Weather Radios. We are also considering the possibility of a NOAA-sponsored contest revolving around the prediction of daily max and min temperatures and precipitation amounts.

Arrangements have been made with Eastern Region to have Jim Belville, MIC, WSFO Washington, staff the Jamboree site with two meteorologist on a daily basis. Not only are we providing weather support for the Jamboree, but NWS has been asked to come up with planned evening activities for the scouts, such as giving spotter talks and showing videotapes and slide shows. For additional information concerning the Jamboree, please contact Linda Kremkau or Bill Read at (301) 427-8090.

o Survey of Emergency Managers Recently, Dr. Mike Carter, sociologist on contract to the Office of Meteorology, completed an analysis of information received from a survey of major emergency management offices across the country. The survey generally asked what information was received from the NWS, how it was received, and what other weather information was needed to do their job. The following points stand out from the analysis.

1. Emergency managers, even in the wealthier jurisdictions, spend little money to receive weather information.

2. Few emergency managers receive forecasts in hard copy form.

3. Most emergency managers presently cannot determine the relative importance of the various types of information we can provide to them.

These results show that before we begin to provide more technical information to emergency management officials as is envisioned in the modernized NWS, we must find out what these officials need to base their decisions upon and then show them what we can provide to meet this need.

o WSOM Chapter C-41, Hurricane Warnings The 1989 version of WSOM Chapter C-41, Hurricane Warnings, is in the final review process and should be distributed to the field by the beginning of this year's hurricane season. The only major policy change is that Hurricane Local Statements (HLS) issued by WSFO's and WSO's shall no longer be numbered. Also, the section concerning hurricane center operations has been extensively reformatted to clarify it's instructions. Bob Case, Hurricane Specialist at NHC, took the lead in drafting this much improved section.

Decade of Natural Disaster Reduction

o U.S. and International Decades of Natural Hazard Reduction As interest in the Decades of Natural Hazard Reduction builds, the Weather Service has received numerous inquiries as to how we will support the Decades. Fortunately our mission, and that of all NOAA line components, actively support the stated goals of seeking to reduce the threat to life and property of rapid onset natural disasters.

Attachment B is a summary paper of the Weather Service's goals which, if realized, would result in our considering the Decades a success. This paper also contributed to an overall NOAA goal statement that will be attached to the next DP Report. NOAA and the Weather Service expect to assume a leadership role in forging partnerships with the entire hazard community to ensure a safer more productive world.

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NOTE: PLEASE CIRCULATE THE DISASTER PREPAREDNESS REPORT THROUGHOUT YOUR OFFICE TO OBTAIN MAXIMUM EXPOSURE. ALSO, REVIEW THE DISASTER PREPAREDNESS ROSTER BELOW TO MAKE CERTAIN WE HAVE THE CORRECT WPM OR FOCAL POINT'S NAME AND PHONE NUMBER. IN ADDITION, WE WOULD APPRECIATE YOUR COMMENTS ON THE CONTENT OF THE DP REPORT.

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DISASTER PREPAREDNESS ROSTER — APRIL 1989

NWS HEADQUARTERS STAFF — FTS - 427-8090

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EASTERN REGION

		FTS
Stan Wasserman	Regional (WPM)	649-5121
Albert Kachic	Reg. Hydrologist	649-5111
John Kwiatkowski	Cleveland (WPM)	942-4949
Mary Jo Parker	Columbia, SC (WPM)	677-5501
Martin Ross	Philadelphia (WPM)	597-3696
Dick Calcaterra	Parkersburg, WV (WPM)	923-1344
Dennis Decker	Raleigh (WPM)	672-4436
Rich Schwerdt	Washington (WPM)	763-8275
Mike Washington	New York (Focal)	662-5340
Tim Scrom	Albany (Focal)	562-6586
Bob Glancy/Mike Wyllie	Boston (Focal)	835-4662
Tom Dunham	Buffalo (Focal)	437-4800
Roger Stairs	Pittsburgh (Focal)	722-2882
Fred Ronco/John Rimkunas	Portland, ME (Focal)	833-3552

SOUTHERN REGION

Max White	(Acting) Regional (WPM)	334-2812
Patricia Brown	Atlanta (WPM)	246-7886
Charles Terrell	Birmingham (WPM)	229-0837
Buddy McIntyre	Fort Worth (WPM)	334-8505
Ron Stagno	Houston (WPM)	526-5834
David Imy	Jackson (WPM)	490-4639
Nelson DeVilliers	Little Rock (WPM)	740-5331
Bill Alexander	Lubbock (WPM)	738-7362
Richard Lane	Memphis (WPM)	222-6441
William Bunting	Norman (WPM)	736-5832
Bill Hare	San Antonio (WPM)	730-5025
Francisco Torres-Cordero	San Juan (WPM)	8-809-753-4893
David Billingsley	Albuquerque (Focal)	474-2170
Frank Revitte	New Orleans (Focal)	682-6891
Jim Lushine	Miami (Focal)	350-4303

CENTRAL REGION

		FTS
Larry Krudwig	Regional (WPM)	867-3239
Lee Larson	Regional Hydrologist	867-3220
R. Koeneman	Chicago (Focal)	353-4680
David Runyan	Ann Arbor (Focal)	378-2220
Brian Dowd	Des Moines (Focal)	862-4496
Jim Allsopp	Indianapolis (Focal)	331-4035
Norman Reitmeyer	Louisville (Focal)	352-5210
Guy Tucker	St. Louis (Focal)	279-7018
Lee Anderson	Sioux Falls (Focal)	782-4244
William Barlow	Topeka (Focal)	752-2630
Bill Kneas	Denver (Focal)	564-0661
Paul Lauze	Cheyenne (Focal)	328-2376
John Miller	Minneapolis (Focal)	725-3400
Tom Zajdel	Milwaukee (Focal)	362-3243
Richard May	Bismarck (Focal)	783-4224
Gary Wiese	Omaha (Focal)	864-4207

WESTERN REGION

Richard Douglas	Regional (WPM)	588-4000
Tony Haffer	Regional Hydrologist	588-5137
Scott Kiser	Boise (Focal)	554-9860
Chuck Conway	Los Angeles (Focal)	793-7215
Mike Franjevic	Phoenix (Focal)	261-6444
Don Northrop	Portland (Focal)	423-2340
Bob Thompson	Reno (Focal)	470-5794
Bill Alder	Salt Lake City (Focal)	588-5133
Jan Null	San Francisco (Focal)	466-7767
Lee Krogh	Seattle (Focal)	392-6087
Lynn Valtinson	Great Falls (Focal)	585-1311

ALASKA REGION

Gary Huffard	Regional (WPM)	8-907-271-3886

PACIFIC REGION

Karl K. Turner	Regional (Focal)	8-808-541-1698

Attachment A

9 Weather Safety Tips

1

Keep weather preparedness essentials on hand.
- Batteries
- Flashlights
- Portable radio

2

In addition to basic emergency supplies, keep these items in your basement or closet.
- Bottled water
- Canned food
- Can opener
- Blankets
- First aid kit
- Duct tape
- Tarpaulin
- Hammer
- Nails

3

If you are told to evacuate, do so immediately. Take along a change of clothing for everyone in the family.
Also take:
- Medicines
- Eyeglasses
- Diapers
- Formula for babies
- Toys and books for children

4

In the event of a severe weather *watch*, atmospheric conditions indicate severe weather may occur. Stay tuned to news broadcasts.

5

In the event of a severe weather *warning*, severe weather has been spotted or will occur soon. Take immediate action.

6

Put important papers and documents in one easily accessible location to quickly grab them if you must evacuate.

7

Stay tuned to radio and television stations for information and advice.

8

Prepare an evacuation plan and review it periodically with family members.

9

If you must evacuate, leave food and water for pets. Shelters will not accept them.

As agencies of the federal government, neither the Department of Commerce nor its NOAA National Weather Service endorse consumer products or services.

OPERATION WEATHERREADY™

WEATHER SAFETY TIPS

NOAA

sponsored by EVEREADY Classic Brand Battery

TORNADO

Tornado Region
Tornadoes can happen in any state. Most common in the South, Southwest and Midwest.

Tornado Season
Peak months are March through August, but can occur any month.

Tornado Watch
A tornado may develop.

Tornado Warning
A tornado has been sighted or will occur soon — seek shelter immediately.

Best Shelters
- Basements, storm shelters, STAY AWAY FROM WINDOWS.
- If no basement, move to small rooms, such as closets or bathrooms, in the center of the building.
- In open country, lie face down in a low area AND COVER YOUR HEAD.
- In a car: STOP! Get out. Lie flat in a low area.
- In a high-rise office building, move to the interior, preferably a stairwell

Tornado Don'ts
- Don't open windows.
- Don't try to outrun a tornado in a car.

Major Cause of Tornado Deaths and Injuries
Flying debris

HURRICANE

Hurricane Region
States along the Atlantic and Gulf Coasts.

Hurricane Season
June through November.

Hurricane Watch
Possible hurricane in 24 to 36 hours.

Hurricane Warning
Hurricane is expected in 24 hours or less.

In Case of a Hurricane Watch
- Protect windows with shutters, boards or tape.
- Turn refrigerators to the coldest setting to preserve food.
- Keep your car fueled.
- Fill bathtub with water in case drinking water becomes contaminated.
- Review family evacuation plan.
- Bring pets indoors.
- Bring outdoor objects inside the house or garage.
- Don't be fooled by a lull in the storm as the "eye" passes over.

When a Hurricane is Over
- Watch for fallen power lines.
- Inspect your home's water, gas and electrical lines for damage.
- Inspect your food supply.
- Encourage your children to talk about the disaster.

Major Cause of Hurricane Deaths
Drowning

FLOOD

Flood Region
Floods can occur in any state, particularly in low-lying or oceanfront areas.

Flood Season
Peak months are April through September, but can occur any month.

If You Live in a Flood Area
- Keep insurance policies, documents and valuables in a safe deposit box.
- Prepare an evacuation plan.
- Be prepared at all times with sandbags, plywood, plastic sheeting and lumber for constructing water barricades.
- Keep your fuel tank filled in case of evacuation.

Flash Flood Watch
Heavy rains may cause a flood.

Flash Flood Warning
Flash floods are taking place or will occur soon — move to safety immediately.

If You Are Told to Evacuate
- Do not drive around police barricades.
- Stay away from drains and ditches.
- Do not walk or drive through flood waters even if they appear shallow.

Major Cause of Flood Deaths
Drowning

LIGHTNING

Lightning Season
Peak months are May through August, but can occur any month.

If Caught Outdoors
- Do not take refuge in a shed — metal or wood. Seek shelter in your automobile or in low areas under small trees.
- Do not stand on a hilltop. Avoid being the tallest object.
- Stay away from isolated trees, metal pipes, rails, metal fences and wire clotheslines.
- Do not use metal sporting equipment such as golf clubs, golf shoes, tennis rackets or bicycles. Stay off tractors and mowers.
- If you're with a group, spread out. Keep several yards apart.
- Stay away from water.
- If your hair stands on end, you are in immediate danger. Drop to your knees and curl your head forward, make your body as small a target as possible.

When a Companion is Struck
- The victim carries no electrical charge and may be handled safely.
- Even if the victim feels fine, immediate medical attention is recommended.
- Keep victim warm and elevate legs.

WINTER STORM

Precautions
- Avoid unnecessary travel before, during and after a storm.
- If you must go outside, remember that several layers of clothes will keep you warmer than a single heavy coat.
- Be particularly careful with portable heaters; there is danger of fire or poisonous fumes.

Snow Driving
- Keep gas tank full for emergency travel and to keep the fuel line from freezing.
- Before every trip, let someone know your destination, route and estimated time of arrival.
- Keep emergency supplies in the trunk of your car.
- If you get stuck, remain visible to rescuers by keeping the overhead light on and attaching a brightly colored cloth to your antenna.
- As you sit in a stalled car, move your arms and legs to keep blood circulating.
- Keep one window slightly open to let fresh air in.

Major Cause of Winter Storm Deaths
Exposure. Nearly one-third of people killed in winter storms die in vehicles.

Weather Preparedness Essentials: Portable Radio, Working Flashlight, and Extra Batteries

Classic

9

Attachment B

The Weather Service and the Decades of Natural Hazard Reduction

The National Weather Service looks forward with excitement and enthusiasm to the International Decade of Natural Hazard Reduction, and the concommitant U.S. Decade, for our work bears directly on their stated goals. Furthermore, we feel that a vigorous U.S. Decade not only will support our country's efforts but will act as a catalyst on the international scene.

Modernization of the National Weather Service must be viewed as a centerpiece in NOAA's commitment to hazard reduction. Modernization is more than the incorporation of advanced technologies. Involved in this modernization is: reconceptualization of service, assessment of user requirements, development of increased relationships with the private sector, maximized intergovernmental coordination, enhanced training of both agency personnel and user groups, and expanded efforts at applied research.

As new technologies come online, such as the Next Generation Weather Radar (NEXRAD), the Automation of Surface Observing Systems (ASOS), the Next Generation Geostationary Orbiting Environmental Satellite (GOES), and advanced computing systems; service areas will be changed so that critical weather information will be provided by those offices, either local of national, that have the best data capabilities to support the service.

These new technologies will provide not only the Weather Service, but the media, local decision makers, the private sector, and the general public with more and new information than they have ever had before. Internally, we are working with the Environmental Research Labs (ERL) and centers of excellence such as our Forecast Office in Norman Oklahoma to assess what datasets forecasters need and how they should be packaged.

Externally, we are working with consultants to assess the critical information requirements of emergency managers specifically concerning product type, format, and frequency of issuance. Concerning the general public, we are attempting to review the entire watch/warning program to assess what changes need to be made and what education efforts are required to maximize public response to critical information.

Warnings and other critical information are only as good as their degree of availability. As modernization progresses, the National Weather Service intends to provide direct links to emergency managers to maximize the flow of vital information. This "government helping government" concept reflects the agency's commitment to supporting local decision makers.

The Weather Service also intends to vigorously work with the private sector both to enhance the dissemination of information to the public and to increase value added services. A major Weather Service goal is the development and issuance of graphical forecasts and warnings to heighten the public's risk perception. These products could be enhanced by the media or data from the Weather Service could be tailored by private vendors for specific dissemination outlets such as local cable television stations.