



# disaster preparedness report

Warning and Forecast Branch  
8060 13th Street, Room 1326  
Silver Spring, Maryland 20910  
Telephone: (301) 427-8090  
Donald Wernly, Branch Chief  
Linda Kremkau, Editor

National Weather Service

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## WHAT'S HAPPENING IN DISASTER PREPAREDNESS



Decade of  
Natural



Disaster  
Reduction

In our last issue, we broached the concept of an International Decade for Natural Hazard Reduction and stated the desirability of a parallel U.S. Decade. Starting with the current issue, we intend to devote a special section to information and notes on both the International and U.S. Decades for Natural Hazard Reduction. In this effort we are following the lead of Dr. William E. Riebsame, Director of the Natural Hazards Research and Applications Information Center at the University of Colorado in Boulder, who has developed a similar special section in his Natural Hazards Observer publication. Furthermore, we graciously thank Dr. Riebsame for authorization to use their logo to highlight Decade information items.

As the most recent issue of the Natural Hazards Observer noted, the International Decade is moving forward under the auspices of the United Nations. The U.S. Decade is still undergoing birthing pains although increasing interest is being shown at the state and local levels as Tennessee has become the third state, following Utah and California, to declare its own Decade for Disaster Reduction.

For an effective U.S. Decade, the entire hazard community: local, state, and Federal Government agencies; media; private sector; industry; educational institutions; and researchers; must plunge into this effort together. The U.S. Decade offers the Nation and literally the world a tremendous opportunity to reduce the suffering and misery caused by the ravages of nature.

Whenever embarking on a new venture, it is always advantageous to review past efforts so as to establish a benchmark from which future actions can be measured. To kick off our Decade section, we are including notes taken from Susan Tubbesing's presentation at the first plenary session of the Colorado Workshop on Hazard Mitigation in the 1990's (attachment A). Susan is the Executive Director of the Earthquake Engineering Research Institute in El Cerrito, California.

o Preliminary Tornado Statistics for 1988 Thirty-two fatalities were recorded in 1988 which was less than the 59 deaths recorded in 1987. Both years statistics were below the 30-year average of 83. However, the lowest number of deaths occurred two years ago in 1986 with 15. Most of the 1988 deaths took place in Arkansas and Tennessee with 6 each; Florida, 5; and North Carolina, 4. (A further fatality breakdown by state is listed on page 3.)

The number of tornadoes in the United States rose slightly this year to 701 as compared to 655 in 1987. The average annual number of tornadoes from 1958 through 1987 is 773. November 1988 was an unusually active month and set an all-time record with 121 tornadoes; the normal is 21 tornadoes. The previous record in the month of November was 81 tornadoes in 1973. The number of tornadoes which occurred in November is comparable to the number of tornadoes normally observed in June. Attachment B is a map of the United States with preliminary tornado statistics by state for 1988.

There were several noteworthy severe weather events during the month of November. Twenty-two tornadoes occurred from the lower Mississippi Valley to the central Gulf Coast on November 4-5. A tornado damaged several mobile homes killing one person and injuring several others at Lee, Florida. A twister destroyed a truck stop and injured 16 people at Tuscumbia, Alabama.

November 15 was one of the most active severe weather days in recent memory with 357 severe weather reports. There were three killer tornadoes during this outbreak. One person was killed in Butterfield, Missouri, where a tornado damaged 20 buildings. A tornado roared through Southside, Arkansas, destroying homes and a school gymnasium and killing one person. The final killer tornado was on the ground for 33 miles in central Arkansas. Three people died in Scott, Arkansas, when power lines, trees, and residences were damaged. The tornado continued into Lonoke, Arkansas, where two people died in a vehicle.

On November 19, more than 100 severe weather reports were received from eastern Texas across the lower Mississippi Valley into Alabama. Two people were killed and ten injured when a tornado moved through Nettleton, Mississippi. A tornado destroyed several homes and injured seven people at Tuscaloosa, Alabama.

The final major severe weather event occurred early on November 28 in North Carolina. A devastating tornado killed two people and caused severe damage in northwest Raleigh. The tornado continued northeast into Castalia where two more people were killed. The Raleigh tornado was an F4 and had a continuous path length of 84 miles.

Below is a further breakdown of the number of fatalities and also the number of tornadoes for the states where the deaths occurred.

<u>State</u>	<u>No. of Fatalities</u>	<u>No. of Tornadoes</u>
Tennessee	6	11
Arkansas	6	12
Florida	5	45
North Carolina	4	19
Mississippi	2	62
Nebraska	2	20
Kentucky	1	5
Michigan	1	26
Missouri	1	17
New York	1	6
Oklahoma	1	17
South Carolina	1	2
Texas	1	89

#### PRIVATE SECTOR INITIATIVES

o Shortage of Handouts Guy Tucker, WSFO St. Louis, Missouri, has been working with Mike Redman of St. Louis County for several years. Mr. Redman is the Communications Coordinator for St. Louis County Police and brings about 250 spotters for training each year. Mr. Redman has expressed concern about the shortage of tornado spotter and safety handouts. He has requested negatives for the Spotter's Guide and is going to print his own. Pat Thomas from the NOAA Public Affairs Office will assist Mr. Redman in this effort.

#### AWARENESS CAMPAIGNS

o Severe Weather Awareness Campaigns Listed below are the severe weather campaigns and drill dates which are scheduled in the near future. These campaigns are geared to help prepare the public to respond properly to our severe weather warnings and statements.

#### Eastern Region

<u>State</u>	<u>Campaign</u>	<u>Date</u>	<u>Drill</u>
North Carolina	Severe Weather	Feb. 19-25	Feb. 22
North Carolina	Hurricane Exercise	June 8-9	

(All state agencies will participate in this 2-day hurricane exercise)

Central Region

<u>State</u>	<u>Campaign</u>	<u>Date</u>	<u>Drill</u>
Illinois	Severe Local Storm	Mar. 5-11	Mar. 7
Kansas	Severe Local Storm	Mar. 6-10	Mar. 7
Missouri	Severe Local Storm	Mar. 6-10	Mar. 7
Nebraska	Severe Local Storm	Mar. 26-31	Mar. 29
Minnesota	Severe Local Storm	Apr. 2-8	Apr. 6
Wisconsin	Severe Local Storm	Apr. 2-7	Apr. 6
South Dakota	Severe Local Storm	Apr. 2-8	Apr. 5
Colorado	Severe Local Storm	Apr. 12	Apr. 12

Southern Region

Mississippi	Severe Weather	Feb. 20-24
Georgia	Severe Weather	Feb. 20-24
Alabama	Severe Weather	Feb. 20-24
Florida	Severe Weather	Feb. 20-24
Tennessee	Severe Weather	Mar. 6-10
Arkansas	Severe Weather	Mar. 6-10

## SEVERE WEATHER AWARENESS ACTIVITIES

o Nevada Winter Storm Awareness Week Governor Richard Bryan declared November 13-19, 1988, as Winter Storm Awareness Week in Nevada. Packets were sent to western Nevada/Lake Tahoe Basin area media, information was sent to school district superintendents in WSFO Reno's county warning area, and Public Service Announcements were aired over the Reno and Elko NOAA Weather Radios. Besides educating the public on winter weather, this was an excellent opportunity to renew or establish relationships with our users — especially the area media.

o North Dakota Winter Awareness Day North Dakota held its Winter Awareness Day on November 17 and was highlighted by a tabletop exercise. A hypothetical Thanksgiving Day blizzard was presented to all participating groups. The impact of the make-believe storm was timed to begin with the dismissal of schools and colleges in the area. Besides the NWS, seven state agencies, the National Guard, Civil Air Patrol, and private businesses worked through the problem in near real time. Media interviews, weather wire, and weather radio stories were part of the effort to minimize winter storm impact on the state.

o Winter Weather Week for Nebraska The Nebraska Winter Weather Week concluded November 5. For the first time, the event was cosponsored with the Nebraska State Civil Defense Agency. The State handled many of the news releases, public service announcements, and distributed literature to the public. Different weather wire releases and special weather radio broadcasts were a daily feature. A special meeting was held with broadcasters and newspaper reporters on how best to inform and protect the public.

## OTHER AWARENESS ACTIVITIES AROUND THE COUNTRY

o Mall Features Community Awareness Day Baybrook Mall in the Galveston area held "Community Awareness Day" recently, and Houston MIC, Mike Pass, and Galveston OIC, Mike Young, hosted an NWS booth. Thanks to the generosity of the Sears store, a television and VCR were available. The NWS booth ran several videos including the "Minneapolis Tornado" and "The Awesome Power." The videos were a tremendous hit and brought a great deal of attention to the NWS exhibit.

Also in the Houston area, Ron Stagno, WPM Houston, was the speaker at a combined amateur radio/Red Cross meeting discussing severe local storms and hurricanes. The program enhanced the relations between the Red Cross, the amateur community, and the NWS.

Just a few days later, Ron also addressed over 150 surgical nurses in a hurricane/flash flood awareness program to Methodist Hospital system, one of the largest in the Houston area. The hour long program stressed hurricanes and hurricane planning in hospitals as well as family safety. Flooding is also a potential problem in the hospital district and planning for this threat was discussed as well.

o Indiana Preparedness Indiana completed an active period of preparedness, making a number of public safety presentations to various service clubs. Craig Edwards, DMIC, WSFO Indianapolis, made special presentations to the AP Broadcasters' Association and the Indiana Law Enforcement Academy. Steve Summy of WSO Evansville, with the assistance of Pat Spoden and Tom Kretz, staffed an NWS display and information center at the Vanderburgh County Fair. Around 18,000 individuals viewed the display as it was located on the main street of the fair.

o School Preparedness Shreveport WSO MIC, Ernie Ethridge, and Little Rock WSO MIC, Al Lee, attended the dedication of Nevada School in Rosston, Arkansas, in mid-September. The Nevada School is a modern school which will probably become a model for future school construction because its design incorporates the best possible features for sheltering students and teachers during a tornado. It is the first school in Arkansas to incorporate specific design features for tornado protection and one of only a few nationwide. Ernie noted that there are 686 schools within the Shreveport County Warning Area. Over the past 15 years, 11 of those schools have been struck by tornadoes. Fortunately, only one school was in session when the tornado hit. Ernie also noted that part of the credit for incorporating the tornado shelter design lies with former NWS employee Davis Benton who was instrumental in helping Nevada County plan and achieve the new facility.

o Mobile Home Preparedness Boosted Mobile homes are very vulnerable in severe storms and, therefore, receive considerable attention in our preparedness efforts. Recently, Jim Helms, OIC at WSO Columbus, was successful in getting preparedness information into the hands of nearly everyone in a 500-unit mobile home park. Mobile home park managers are not always enthusiastic about distributing preparedness information. Nevertheless, after one park manager heard mobile home safety promos on the Columbus NOAA weather radio, he wrote Jim to ask for a safety brochure for each mobile home resident. With the help of FEMA, Jim was able to secure the brochure, "Protecting Manufactured Homes from High Winds," for each mobile home resident.

an effective tool for "selling" hazard reduction to our citizens. Incentives for building owners to retrofit their structures must be provided. We also have to provide incentives for communities to change hazardous land uses and to deal with existing hazardous structures.

Finally, the many research accomplishments of the past several years must be utilized. Identification of areas and populations at risk need to be refined. The production and distribution of effective technical and non-technical hazards information to target audiences must be increased. Effective interagency and multi-jurisdictional cooperation must be fostered to a greater extent. Existing institutional networks such as professional associations, volunteer organizations, and religious groups must be used for hazard reduction strategies to be acceptable and successful. Public/private partnerships need to be extended greatly since the task of hazard reduction is too great for any one entity. We must also provide technical assistance at the local level. Proven technology transfer approaches should be used. We need to incorporate what we know about risk communication and behavioral change into locally relevant methods. With these strategies in mind, hazard reduction should be focused on specific, measurable goals. Scientific and technological information need to be applied as part of an integrated program that includes not only our state-of-the-art knowledge about the physical aspects of hazards, but about their human components as well.

**FIGURE 6**

**Natural Hazard Mitigation  
FEDERAL PROGRAMS (examples)**

**FEDERAL DISASTER RELIEF ACT**

**NATIONAL FLOOD INSURANCE PROGRAM - MAPPING,  
REGULATION**

**FLOOD HAZARD EXECUTIVE ORDERS 11296, 11988**

**INTERAGENCY POST DISASTER HAZARD MITIGATION  
TEAMS - FLOOD, EQ**

**NATIONAL EQ HAZARD REDUCTION PROGRAM**

**INTERAGENCY HURRICANE EVACUATION PROGRAM**

**COASTAL ZONE MANAGEMENT ACT**

**NOAA'S SLOSH MODELS & DOPPLER RADAR**

**NWS HURRICANE, TORNADO & OTHER SEVERE STORM  
PUBLIC EDUCATION MATERIALS**

**USGS HAZARD WARNING PROGRAM**

**THE FEDERAL DAM SAFETY PROGRAM**

**USGS/FEMA EQ AWARENESS WORKSHOPS**

**FEMA/BSSC EQ HAZARD REDUCTION SERIES**

**FEMA'S PUBLIC EDUCATION MATERIALS: CTW, REGIONAL  
EQ INFORMATION PROGRAMS, ETC.**

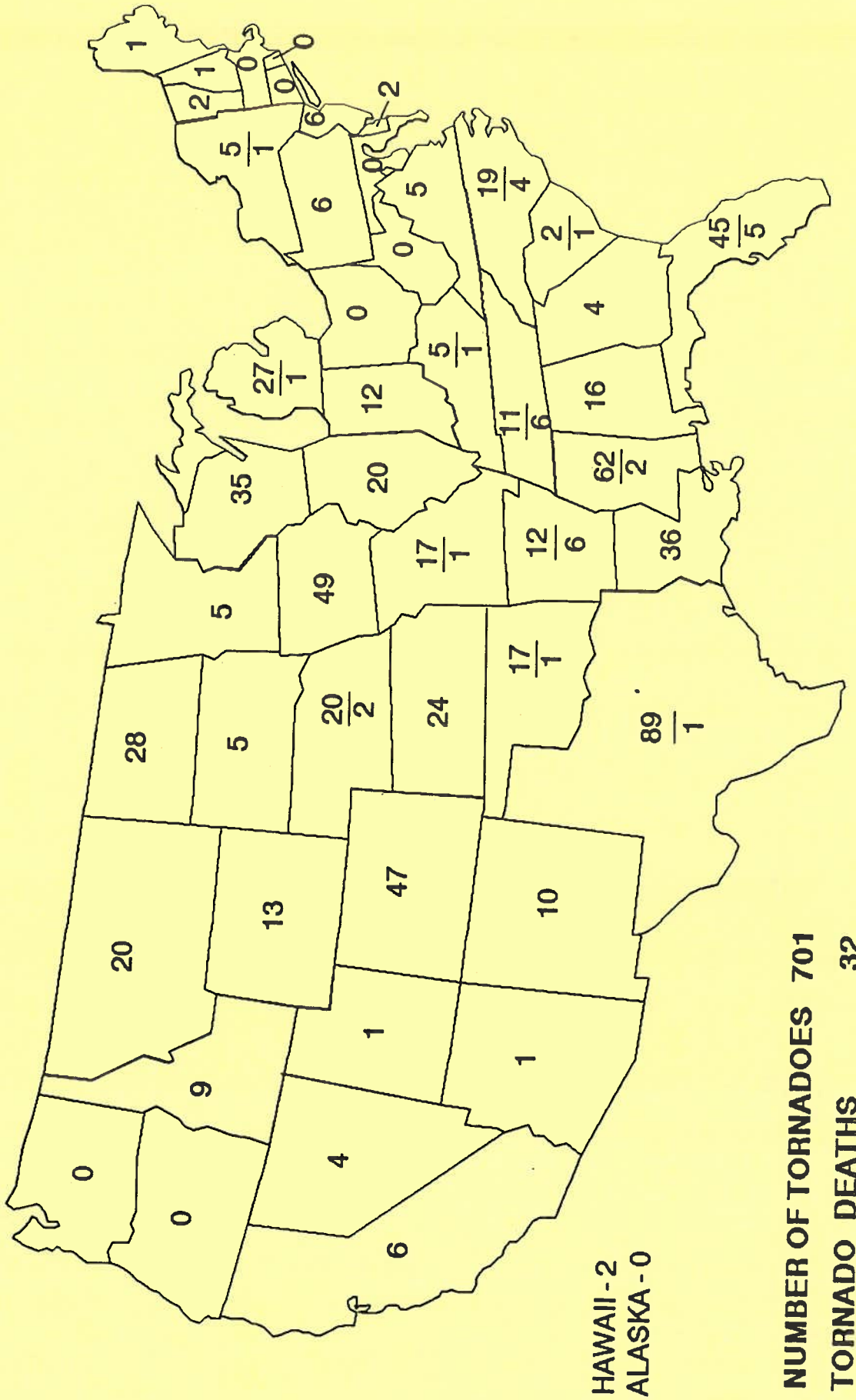
**NIMH INFORMATION FOR DISASTER WORKERS**

**USGS PARKFIELD EXPERIMENT**





# NATIONAL WEATHER SERVICE PRELIMINARY TORNADO STATISTICS FOR 1988



NUMBER OF TORNADOES 701  
TORNADO DEATHS 32



Attachment C

LIST OF HISTORICAL AUDIOVISUALS AVAILABLE FROM THE  
WARNING AND FORECAST BRANCH (W/OML1)  
NATIONAL WEATHER SERVICE HEADQUARTERS

16 MM FILMS

An Ill Wind  
Rising Waters  
Watch Along the Watershed  
Earthwatch  
NOAA, A Global View  
Galaxy  
Before It Hits Home  
Hurricane, Before the Storm  
Hurricane Aetna, Date with Disaster  
Cities Don't Die  
Winter Storm



DISASTER PREPAREDNESS ROSTER

NWS HEADQUARTERS STAFF

Donald R. Wernly, W/O111  
 Linda S. Kremkau, W/OM11  
 Stephen W. Harned, W/O111  
 Rodney J. Becker, W/OM11

FTS - 427-8090

Chief, Warning and Forecast Branch  
 Program Assistant/Editor DP Report  
 Emergency Warnings Meteorologist  
 Public Weather Meteorologist

EASTERN REGION

Stan Wasserman  
 Albert Kachic  
 John Kwiatkowski  
 Mary Jo Parker  
 Martin Ross  
 Dick Calcaterra  
 Dennis Decker  
 Rich Schwerdt  
 Mike Washington  
 Tim Scrom  
 Bob Glancy/Mike Wyllie  
 Tom Dunham  
 Bill Drzal  
 Dave Sisk  
 Fred Ronco/John Rimkunas

FTS

649-5455  
 649-5464  
 942-4949  
 677-5501  
 597-3696  
 923-1344  
 672-4436  
 763-8275  
 662-5340  
 562-6586  
 835-4662  
 437-4800  
 722-2882  
 722-2882  
 833-3552

Regional (WPM)  
 Reg. Hydrologist  
 Cleveland (WPM)  
 Columbia, SC (WPM)  
 Philadelphia (WPM)  
 Parkersburg, WV (WPM)  
 Raleigh (WPM)  
 Washington (WPM)  
 New York (Focal)  
 Albany (Focal)  
 Boston (Focal)  
 Buffalo (Focal)  
 Pittsburgh (Focal)  
 Pittsburgh (Focal)  
 Portland (Focal)

SOUTHERN REGION

Brian Peters  
 Max Blood  
 Charles Terrell  
 Buddy McIntyre  
 Ron Stagno  
 David Imy  
 Nelson DeVilliers  
 Bill Alexander  
 Richard Lane  
 William Bunting  
 Bill Hare  
 Francisco Torres-Cordero  
 David Billingsley  
 Frank Revitte  
 Larry Lahiff

334-2812  
 246-7586  
 229-0837  
 334-8505  
 526-5834  
 490-4639  
 740-5331  
 738-7362  
 222-6441  
 736-5032  
 730-5025  
 8-809-753-4893  
 474-2170  
 682-6891  
 350-4303

Regional (WPM)  
 Atlanta (WPM)  
 Birmingham (WPM)  
 Fort Worth (WPM)  
 Houston (WPM)  
 Jackson (WPM)  
 Little Rock (WPM)  
 Lubbock (WPM)  
 Memphis (WPM)  
 Oklahoma City (WPM)  
 San Antonio (WPM)  
 San Juan (WPM)  
 Albuquerque (Focal)  
 New Orleans (Focal)  
 Miami (Focal)

FTS

758-3239  
 758-3229  
 353-4680  
 378-2220  
 862-4496  
 331-4035  
 352-5210  
 279-7018  
 782-4244  
 752-2630  
 564-0661  
 328-2376  
 725-3400  
 362-3243  
 783-4224  
 864-4207

Regional (WPM)  
 Regional Hydrologist  
 Chicago (Focal)  
 Ann Arbor (Focal)  
 Des Moines (Focal)  
 Indianapolis (Focal)  
 Louisville (Focal)  
 St. Louis (Focal)  
 Sioux Falls (Focal)  
 Topeka (Focal)  
 Denver (Focal)  
 Cheyenne (Focal)  
 Minneapolis (Focal)  
 Milwaukee (Focal)  
 Bismarck (Focal)  
 Omaha (Focal)

CENTRAL REGION

Larry Krudwig  
 Lee Larson  
 R. Koeneman  
 David Runyan  
 Brian Dowd  
 Jim Allsopp  
 Norman Reitmeyer  
 Guy Tucker  
 Lee Anderson  
 William Barlow  
 Bill Kneas  
 Paul Lauze  
 John Miller  
 Tom Zajdel  
 Richard May  
 Gary Wiese

WESTERN REGION

Richard Douglas  
 Tony Hafer  
 Scott Kiser  
 Chuck Conway  
 Mike Franjevic  
 Don Northrop  
 Bob Thompson  
 Bill Alder  
 Jan Null  
 Lee Krogh  
 Lynn Valtinson

Regional (WPM)  
 Regional Hydrologist  
 Boise (Focal)  
 Los Angeles (Focal)  
 Phoenix (Focal)  
 Portland (Focal)  
 Reno (Focal)  
 Salt Lake City (Focal)  
 San Francisco (Focal)  
 Seattle (Focal)  
 Great Falls (Focal)

588-4000  
 588-5137  
 554-9860  
 793-7215  
 261-3500  
 423-2340  
 470-5794  
 588-5133  
 466-7767  
 392-6087  
 585-1311

ALASKA REGION

Gary Huffard

Regional (WPM) 8-907-271-3886

PACIFIC REGION

Vacant

Regional (WPM) 8-551-1698

