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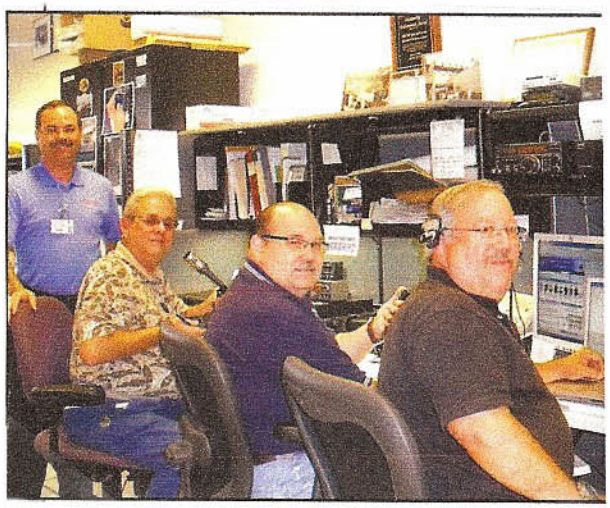
BY BOB JOSUWEIT,* WA3PZO

It's All About the Weather



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SKYWARN

BY BOB JOSUWEIT,* WA3PZO

It's All About the Weather

It seems as if we are always talking about weather emergencies and natural disasters either here in the United States or around the world. This month's column is no different as we take a look at some weather happenings and disaster preparedness.

In early December amateur radio operators around the country and many National Weather Service (NWS) offices participated in the national Skywarn Recognition Day. Since 1999 the event celebrates the contributions that volunteer Skywarn radio operators make to the National Weather Service. Sponsored by the National Weather Service and the ARRL, both organizations recognize the importance that amateur radio operators provide during severe weather. Steve Naglic, Warning Coordination Meteorologist at the NWS Weather Forecast Office in Columbia, SC, told local amateur radio operators, "We greatly appreciate all the assistance you have given us this past year and your help has allowed us to provide better service to the public and our other customers. The March 15th supercell outbreak was a testament to your vital support, as the information we received from spotters helped us to provide timely warnings and save lives."

A supercell thunderstorm is potentially the most dangerous of the convective storm types. According to the National Weather Service, storms possessing this structure have been observed to generate the vast majority of long-lived strong and violent (F2–F5) tornadoes, as well as downburst damage and large hail.

Julio Ripoll, WD4R, Assistant National Hurricane Center Amateur Radio Coordinator for WX4NHC, thanked members of the VoIP (Voice over Internet Protocol) Hurricane Net for their effort and time during Hurricane Paloma, especially as the hurricane tracked through the Cayman Islands. According to Ripoll, "The information relayed by your net gave the Hurricane Center Forecasters additional insight of what Cayman residents were actually going through. Your multi-tasking, multi-mode methods of combining EchoLink and IRLP VoIP, HF monitoring, Internet Web Blogs, and direct e-mail is a great example of information gathering without limitations."

He continued, "These hybrid communications efforts, before and during the hurricane, to contact hams and non-hams were successful in promoting awareness that they had alternate means of sending and receiving hurricane information during the event. Some of these new contacts will be better prepared for future storms because of your interaction with them during Paloma. Some may become hams."

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A hurricane bulletin issued during Hurricane Paloma said in part: " . . . Hurricane force winds extend outward up to 30 miles . . . 45 km . . . from the center . . . and tropical storm force winds extend outward up to 115 miles . . . 185 km. Unofficial reports of sustained winds of 80 mph . . . 130 km/hr . . .with gusts near 100 mph . . . 160 km/hr . . . have been received from amateur/ham radio operators on Grand Cayman during the past couple of hours."

Ripoll said they "worked many NWS stations on HF, APRS, and EchoLink/IRLP. Stations worked were as close as Florida and as far away as Australia. The coldest weather report we received was 12°F from Alaska and the warmest was 80°F from Hawaii. Many stations were very jealous when we gave them our weather report of 79°F and sunny. We also trained a new WX4NHC operator, Enrique Morales, KB4BX, who will augment our bilingual staff for the next hurricane season."

CQ asked Ripoll about the value of Skywarn Recognition Day. He said the "SRD is both fun and very useful for hams and the NWS as a joint exercise for possible future operations during severe weather and communications outage backup. An example of the importance of a ham radio station at an NWS Office during severe weather was during Hurricane Katrina. During Katrina, NWS Slidell lost all communications with the outside world, except for ham radio. They were able to establish and maintain contact with WX4NHC and others around the country with real-time weather reports and let them know their damage and personal conditions."

Gary Woodall, Warning Coordination Meteorologist at the NWS Fort Worth Forecast Office,

WX4NHC at the National Hurricane Center is one of the most recognizable stations on the air during hurricane season. Here Julio Ripoll, WD4R, Enrique Morales, KB4BX, Jose Deschapelles, W2JD, and Miguel Parages, Jr., KG9C, staff the station during Skywarn Recognition Day. (Photo courtesy Julio Ripoll, WD4R)

described the importance of the spotters: "We have some powerful electronic tools for observing thunderstorms. However, those tools only tell part of the story of what's happening in or near a storm. By combining the electronic data with the near-storm observations we get from spotters, we have a much more complete picture of the storm." He continued, "We're happy to participate in Skywarn Recognition Day as a small 'thank you' to our dedicated storm spotters. We have a tremendous network of storm spotter groups across north and north-central Texas. The amateur radio operators serve as the backbone for many of the groups, with law and fire officials, city and county employees, and members of the public also making valuable contributions."

Some History

The first Skywarn Recognition Day was in 1999. Meteorologist-in-Charge of the Goodland, Kansas NWS office, Scott Mentzer, NØQE, developed a way to recognize the valuable contributions storm spotters make to the National Weather Service. "Since many of those storm spotters were also hams," Floyd said, "it seemed like a natural fit for the recognition to be centered on Amateur Radio." At the end of the first event 15,888 QSOs were logged with contacts made to all 50 states and 63 countries. The Des Moines forecast office took the honor of making the most contacts of any office that first year, with 761 QSOs, and went on to lead the pack until 2003 by logging between 1300 and 1500 contacts each year. Over the years the feedback from that first event was "overwhelmingly positive" from both the NWS staff and the local ham clubs: "Suddenly there was incentive for more NWS staffers to either obtain a license or upgrade so that more people could work ham radio during severe events. In addition, many club members had never visited an NWS office before. When they came for the special event, they learned the value of their reports and how they were used in conjunction with existing technology."

The following year 85 of the 122 NWS offices—almost 70 percent—participated in the event, making nearly 24,000 QSOs. "Perhaps the most unusual contact that occurred in 2000 was with an airliner 39,000 feet above Utah," Floyd said. "The pilot ended the QSO with a request for a 'spot weather forecast' for his arrival at Salt Lake City airport."

In 2001, the name of the event was changed to SKYWARN Recognition Day, a name Floyd said better relayed what the day was all about: "Each year since the inception of SRD, the number of NWS offices and local ham clubs participating has increased, until now more than 100 offices sign up each year to take part. The most contacts made during any SRD occurred in 2006 when—thanks to the staff and local hams in the Grand Junction, Colorado area—1640 QSOs were logged!"

Station callsigns have also changed over the years. Floyd said that some NWS offices and clubs apply for a special event callsign, "such as W3B in Brownsville or NØY in Aberdeen, South Dakota. Other callsigns hint at office location, including WX9GRB in Green Bay and WX4NHC at the National Hurricane Center. Still others represent more of the big picture, as in KCØSKY in Pleasant Hill, Missouri."

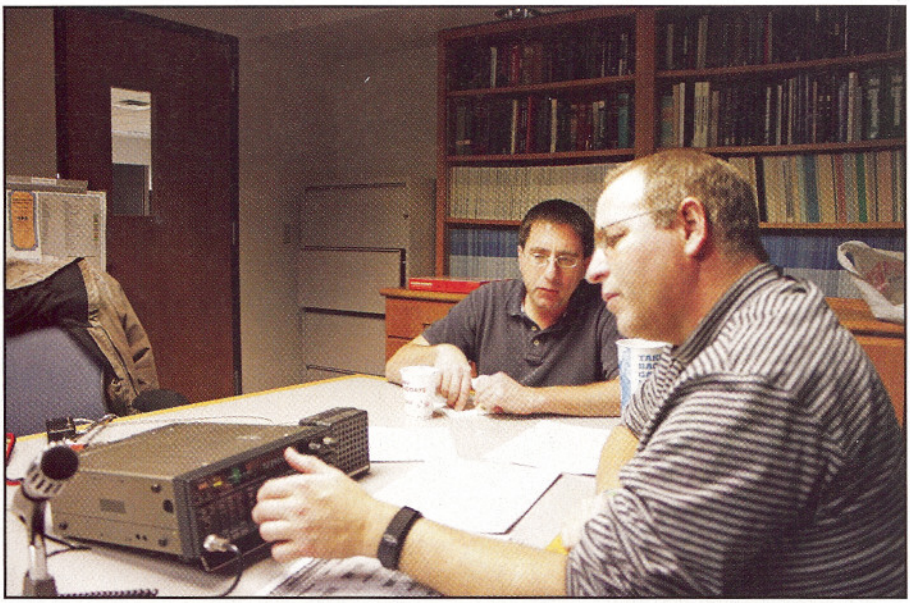
Floyd said that as SKYWARN Recognition Day has grown throughout the years, he has seen a greater use of digital communications in addition to CW, RTTY, and packet radio: "Each year, more and more contacts are being made using EchoLink, Winlink, and the use of e-mail reflectors." Over 100 Weather Service offices in the United States and Canada participated in the event.

Getting Involved

Each year the effects of severe weather are felt by many Americans. To obtain critical weather information, NOAA's National Weather Service (NWS), part of the U.S. Department of Commerce, established the Skywarn program. Skywarn, a volunteer program with nearly 280,000 trained severe-weather spotters, helps keep communities safe by providing timely and accurate reports of severe weather to the National Weather Service. Although Skywarn spotters provide essential information for all types of weather hazards, the main responsibility of a Skywarn spotter is to identify and describe severe local storms. According to the National Weather Service 10,000 severe thunderstorms, 5000 floods, and more than 1000 tornadoes occur across the United States each year. These events threatened lives and property.

Since the program started in the 1970s, the information provided by Skywarn spotters—coupled with Doppler radar technology, and improved satellite and other data—has enabled the Nation Weather Service to issue more timely and accurate warnings for tornadoes, severe thunderstorms, and flash floods.

According to the NWS, Skywarn storm spotters are part of the ranks of citizens who form the nation's first line of defense against severe weather. There can be



Joe Miketta, Warning Coordination Meteorologist at the Mt. Holly, NJ National Weather Service Office, listens in as Mike Patton, W3MJP, a member of the local Skywarn Advisory Committee, makes contacts across the United States using the call WX2PHI. (Photo courtesy of Lou Ruh, WX3I)

no finer reward than to know that their efforts have given communities the precious gift of time, seconds and minutes that can help save lives.

Who is Eligible?

The NWS encourages anyone with an interest in public service and access to communications, such as amateur radio, to join the Skywarn program. Volunteers also include police and fire personnel, dispatchers, EMS workers, public-utility workers, and other concerned private citizens. Individuals affiliated with hospitals, schools, churches, and nursing homes or who have a responsibility for protecting others are also encouraged to become a spotter.

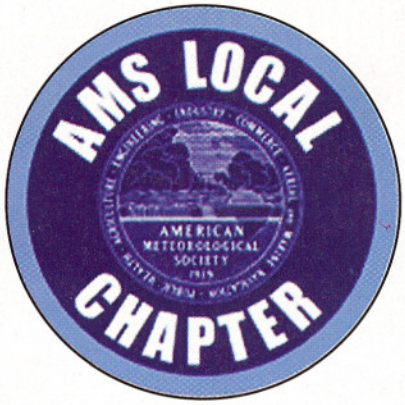
How Can I Get Involved?

The NWS has 122 local Weather Forecast Offices, each with a Warning Coordination Meteorologist who is responsible for administering the Skywarn program in his/her local area. You can contact your local ARES or RACES group to find out who the local amateur radio Skywarn Coordinator is or contact your local Weather Service Office. Many local NWS websites have a link to the local Skywarn program. Training to become a spotter is conducted by the local offices and covers information on thunderstorm development, storm structure, and identifying potential severe-weather features. In addition, you will be taught what information to report and how to report it. Classes are free and typically are about two hours long.

Additional Training

While the Skywarn training program provides you with all of the information you need to become a storm spotter, many members of Skywarn have an interest in expanding their knowledge of the weather. One way of doing this is to attend a meeting of a local chapter of the American Meteorological Society (AMS). According to the AMS, local chapters have been a part of the society's framework almost from the beginning of the organization, with the first chapter formed in Boston in 1929. The local chapters were viewed from the start as an effective means of increasing the awareness of meteorology among the general public, as well as providing a mechanism for local gatherings of professionals and weather enthusiasts that would ultimately lead to a growth in society membership. The society now has approximately 125 active local chapters, including over 40 student chapters that specifically serve the needs of meteorology students. The AMS also sponsors a certification program for broadcast meteorologists.

In the Philadelphia area, the Delaware–Philadelphia Area Chapter of the AMS has a variety of members from local universities, the National Weather Service, the Federal Aviation Administration, local television stations, Sky-



AMS Logo. Local chapters of the AMS are a great way to learn more about the weather, meet other weather enthusiasts, and introduce members to ham radio.

NHC Director Bill Read, KB5FYA (with headset), gave Skywarn volunteers a personal tour of the National Hurricane Center. (Photo courtesy Julio Ripoll, WD4R)

warn spotters, students, ham radio operators, and weather enthusiasts. Over the past year there have been speakers from the local universities on local weather studies being done, as well as Bill Read, KB5FYA, Director of the National Hurricane Center. For further information on local chapter activity check at the AMS chapter website at <http://www.ametsoc.org/amschaps/index.html>.

Possible New Warnings

The 2008 hurricane season was barely over and some forecasters were suggesting that new types of warnings should be issued in 2009. Hurricane Ike, the most destructive storm in the 2008 hurricane season, was not classified as a major hurricane using the yardstick forecasters have used for decades. However, Ike produced a catastrophic storm surge and ranks as the third costliest tropical system to strike the U.S. in 150 years, behind only Hurricanes Katrina and Andrew. Some forecasters are considering modifying the Saffir-Simpson scale. Ike was only ranked a Category 2 hurricane on the scale.

Hurricane scientists meeting in Miami in mid-December, as this is being written, will discuss, and perhaps act on, a proposal to develop a new scale for classifying hurricanes that better accounts for storm surge. Gene Hafele, meteorologist in charge of the Houston/Galveston office of the National Weather Service, who is proposing the modification ,told the *Houston Chronicle* that "It is not an easy issue, but I believe a change must be made." He continued, "Bad decisions were made during Ike by both citizens and officials, based on the notion that Ike was a Category 2 storm and a feeling that 'I have been through a lot worse.' It is hard to convince people that they could face certain death when they see that a storm is not even considered to be a major hurricane." Storm surge is determined more by the size of the hurricane than its wind speed.

National Hurricane Center Director Bill Read, KB5FYA, has been non-committal on a possible change. However, he eventually wants to deliver risk information on forecast winds and storm surge, perhaps by ZIP code, to residents within the potential path of a hurricane. The pros and cons of the Saffir-Simpson scale will be discussed at April's National Hurricane Conference in Austin, TX.

Severe Weather Coming

It won't be long before severe weather will strike some part of the country. Flooding, tornadoes, and eventually hurricanes will strike. Will you be prepared? Now is the time to get ready. Until next month . . .

73, Bob, WA3PZO