

What is SKYWARN?

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It was early Palm Sunday morning in April, 1965. I was a sixteen year-old high school sophomore in Marshall, Michigan with an eight month-old amateur radio license. A Technician Class amateur at the time, I received a phone call from a fellow ham, grabbed my Heathkit "Sixer," a Cushcraft halo antenna, and ran down to the police station four blocks away.

That day I was baptized in the deep end of emergency communications. An outbreak of 51 tornadoes had ripped through the Midwest and our little station was the only contact with Coldwater, a small town 20 miles south that had been devastated by a twister. Little did I know then that this spectacular and destructive display of force would be the catalyst to establish SKYWARN with the National Weather Service. In evaluating the emergency responses for the "Palm Sunday Tornado Outbreak," the survey team, appointed by the Chief of the Weather Bureau, found serious inadequacies in communications, storm spotting, and radar coverage. From these observations, NADWARN (National Disaster Warning System) was born. One phase of this program grew into what we now call SKYWARN, which is a coordinated network of trained volunteer spotters working with the National Weather Service during specific times of severe weather. While SKYWARN Spotters do not need to be amateur radio operators, the majority of volunteers still come from the ranks of ham radio. SKYWARN is primarily focused on tornado preparedness, its portfolio of activations is much larger and can include flooding, winter storms, severe thunderstorms, and hurricanes.



Tornado near Rt. 28 in Dulles, Va

Until 1952, the general public never heard the word "tornado" in any forecasts or alerts. Only government officials were allowed to receive such information for fear of panic. The first actual weather spotting group anyone remembers was the Ground Observer Corps in St. Louis, Missouri. Trained for spotting enemy aircraft in WWII, this group worked with the weather service in filtering any reported tornado activity, reporting on the six meter amateur band. Ironically, the group disbanded ten days before a major tornado struck the St. Louis area in 1959.

Over the years, technology has brought about significant advances in weather forecasting and tracking. Supercomputers are working with more complex weather models based on trillions of calculations. NEXRAD (meaning Next Generation Radar but more commonly called Doppler) has allowed meteorologists to detect circulation patterns that lead to tornadoes. With all these advances, however, nothing still compares with actual "eyes in the sky" when it comes to confirming an actual tornado.

While reports are always welcomed from anyone experiencing severe weather, trained spotters are a critical to the overall mission of SKYWARN for several reasons. First, spotters who have even attended Basic I training have a much better understanding of the formations they are seeing when they look at a storm. By attending Basic II and specialty courses on such topics as hurricanes and winter storms, this information base is extended even more. While nothing is better than real-time viewing, SKYWARN classes are an excellent audio-visual immersion into severe weather. I regularly return to the Basic I class just to review.

SKYWARN training does more than just prepare you to identify a tornado. The spotter is given an introduction to the entire cycle of a storm; the various parts and different kinds of storms that they would encounter; and as well as types of non-threatening cloud displays. Photographs and diagrams of actual tornadoes are used to give each person a more visual understanding of what they should be looking for and aftermath pictures show why this work is so important. SKYWARN is the best severe weather training around, and is also used to train police, fire, rescue, and other public service individuals for their role during a storm.

Second, in addition to training, spotters who attend are registered with SKYWARN and the National Weather Service. This gives forecasters confidence that they are dealing with someone with whom they have already had contact. We would hope no one would take advantage of a severe weather situation to play a joke on well-meaning volunteers, but one never knows. Registering and receiving a spotter ID puts you “into the system.”

Third, you are joining a great group of people! In addition to activations, SKYWARN Advisory meetings, which are held four times a year, give amateurs a chance to meet with one another, talk about SKYWARN issues, and how to improve their skills. Yearly, “SKYWARN Recognition Day” gives local amateurs a chance to team up at the National Weather Service and make contacts with other stations around the city, around the nation, and around the world. Scheduled in December, there is nothing better than SRD hone some of your more unusual emergency practices, such as stringing portable masts and antennas in a snowstorm.

During the recent activation after Hurricane Ivan, SKYWARN showed how well we can provide “real-time” information to the National Weather Service. Not only were there accurate spotting reports that confirmed their analyses and aided their coordination with local agencies, but damage reports were also received after the fact. SKYWARN has always participated in a mutual cooperation of amateur resources with ARES (Amateur Radio Emergency Services) and RACES (Radio Amateur Civil Emergency Service). During this recent activation, an ARES-SKYWARN link provided excellent damage assessment on the tornado that touched down in Loudoun County. This is only the most recent of many cooperative efforts involving all three organizations.



Mark, KG4JAM and Mike, KB4FLY at Skywarn Recognition Day, NWS Sterling

Trained volunteers provide immediate and important information during weather emergencies and are always needed for SKYWARN activation. Net Control Stations, WX4LWX (NWS Sterling) volunteer operators, and spotters are the key functions where you could make a difference during an activation. If you would like to become involved in SKYWARN, please contact me at w4xj@arrl.net.

Information from this article came from the following sources:

1. The National Weather Service, www.weather.gov.
2. Gropper, Daniel R. SKYWARN Net Control Operations Manual, Washington, DC, 1993.
3. “What is Skywarn?” By Dave Johnson, N0BDP for Skywarn Central, www.skywarn.ampr.org.
4. The Weather Underground, www.wunderground.com.