

*"America's Weather Enterprise: Protecting Lives, Livelihoods, and Your Way of Life"*



## **NOAA's National Weather Service Be A Citizen Scientist**

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NOAA's National Weather Service (NWS) depends on support from the general public in two key programs: SKYWARN Spotters and Cooperative Observers. In both these programs, volunteers provide vital, real-time observational data.

The effects of severe weather are felt almost every day by tens of thousands of Americans. To obtain critical weather information from a variety of locations, NWS and partner groups set up SKYWARN, a volunteer program with more than 230,000 trained severe weather spotters. These volunteers help keep their local communities safe by sending NWS timely and accurate reports of severe weather.

SKYWARN spotters provide essential information for all types of environmental hazards, however, the main responsibility of a spotter is to report severe local storms. In an average year, the U.S. is affected by 10,000 severe thunderstorms, 5,000 floods and more than 1,000 tornadoes. Where appropriate, spotters also are trained on warning signs for earthquakes, landslides, avalanches, volcanic ashfall, and coastal hazards such as tsunamis, water spouts and rip currents.

Since the program started in the 1970s, SKYWARN information, coupled with Doppler radar technology, improved satellite data and other resources, has enabled NWS to issue more timely and accurate warnings for tornadoes, severe thunderstorms and flash floods.

SKYWARN storm spotters form the Nation's first line of defense against severe weather. The efforts of these volunteers have given communities the precious gift of time--seconds and minutes that can help save lives.

### **Who is Eligible?**

Anyone with access to a telephone or HAM radio can join the SKYWARN program. Spotters can also submit reports through the internet on their local NWS Forecast Office web site. Spotters include police and fire personnel, dispatchers, EMS workers, public utility workers and other citizens interested in weather. NWS encourages staff at hospitals, schools, churches, nursing homes and other key locales to become a spotter.

### **How Can I Get Involved?**

To get involved, contact the Warning Coordination Meteorologist (WCM) in your local NWS office. WCMs conduct training and administer the SKYWARN program for a specific local area. Spotter training covers:

- Basics of thunderstorm development
- Fundamentals of storm structure
- Identifying potential severe weather features
- Information to report
- How to report information
- Basic severe weather safety
- Information on other environmental hazards in your region

Classes are free and typically are about 2 hours. To find out when a SKYWARN class will be conducted in local your area, contact your local WCM at:

<http://www.stormready.noaa.gov/contact.htm>

### **What is the Coop Program?**

The NWS Cooperative Observer Program (Coop) is the Nation's weather and climate observing network of, by and for the people. More than 11,000 volunteers take observations on farms, in urban and suburban areas, National Parks, seashores, and mountaintops. The data are truly representative of where people live, work and play. The Coop program was created in 1890 under the Organic Act. Its mission is two-fold:

- To provide observational meteorological data, usually consisting of daily maximum and minimum temperatures, snowfall, and 24-hour precipitation totals, needed to define U.S. climate and to help measure long-term climate changes
- To provide observational meteorological data in near real-time to support forecast, warning and other public service programs of the NWS.

A cooperative station is a site where observations are taken or other services rendered by volunteers or contractors. Observers are not required to take any tests. A cooperative station may be located with other types of observing equipment such as standard observations stations, Flight Service Stations, etc. In these cases, equipment supporting the cooperative program's mission is treated and documented separately.

Most cooperative observers are volunteers, but some are paid where specific types of services are needed. Observers record temperature and precipitation daily and send those reports monthly to the National Climatic Data Center (NCDC) or an NWS office. Many Coop observers provide additional hydrological or meteorological data, such as evaporation. Data is transmitted via telephone, computer or mail. Equipment used at NWS cooperative stations may be owned by the NWS, the observer, or by a company or other government agency, as long as it meets NWS equipment standards.

Volunteer weather observers conscientiously contribute their time so observations can provide the vital information needed. These data are invaluable in learning more about the floods, droughts, heat and cold waves affecting us all. The data are also used in agricultural planning and assessment, engineering, environmental-impact assessment, utilities planning, and litigation. Coop data plays a critical role in efforts to recognize and evaluate the extent of human impacts on climate from local to global scales.

For more information on becoming a spotter or cooperative observer, contact your local forecast office: <http://www.stormready.noaa.gov/contact.htm>