



## **OFFICIAL POLICY FOR AMATEUR RADIO WEATHER SPOTTER REPORTING IN CHEROKEE AND CLAY COUNTIES OF NORTH CAROLINA**

1. Whereas Cherokee County and Clay County are in different districts for the purposes of NCAUXCOM and NCARES, and
2. Whereas Cherokee County and Clay County, North Carolina come under the responsibilities of the National Oceanic and Atmospheric Administration National Weather Service Office (NWS) in Morristown, Tennessee (KMRX) while the remainder of Western North Carolina comes under the responsibilities of the National Weather Service in Greenville-Spartanburg, South Carolina (KGSP), and
3. Whereas, there exists a formal line of communication between the NWS officially sanctioned amateur radio station WX4MRX and members of the amateur radio community in Cherokee and Clay County on the 147.045 K4AIH repeater, and
4. Whereas, there are a number of trained weather spotters in the local area trained by representatives of the NWS offices in KMRX or KGSP.

The formal procedure developed and approved for the use of amateur radio as a primary means of communication between the NWS at KMRX and the trained radio amateurs in Cherokee and Clay Counties of Southwest North Carolina be directed under the auspices of the Cherokee County Amateur Radio Emergency Service and sanctioned by the North Carolina Amateur Radio Emergency Services Section and the National Weather Service Forecast Office Morristown, TN.

### **DEFINITIONS:**

1. **SKYWARN\***: The officially sanctioned program of the NWS to recruit and train persons to recognize potentially severe weather phenomenon and actual severe weather and report said information directly to the NWS office in the most efficient and practical manner.
2. **TRAINED SPOTTER**: A person, regardless of amateur radio affiliation, who has received training from the NWS to recognize and report severe weather to the NWS and holds a training certificate from the NWS.
3. **STORM CHASER**: A person, regardless of amateur radio affiliation, who chooses, at their own peril, to follow or intercept potentially severe weather, including tornadoes.
4. **SEVERE WEATHER**: Weather phenomenon which meet the criteria set by the NWS as capable of causing damage, including, but not limited to:
  - a. Tornadoes of any size or speed.
  - b. Winds in excess of 55 knots (58 mph)
  - c. Hail at or exceeding one inch in diameter
  - d. Wall clouds exhibiting circular rotation.



- e. Roll Clouds exhibiting horizontal rotation.
  - f. Excessive, rapid rainfall continuously falling at greater than two inches per hour.
  - g. Observed flooding and flash flooding.
  - h. Observed weather related damage.
5. **AMATEUR RADIO OPERATOR:** A person who holds a valid and current Amateur Radio License from the Federal Communications Commission.
  6. **SKYWARN COODINATOR:** An amateur radio operator in good standing who acts as a liaison with the NWS Warning Coordination Meteorologist, maintains records of active SKYWARN members, organizes training and network operations, maintains logs of SKYWARN nets, and reports activities to NCARES through the local EC or DEC.
  7. **SEVERE WEATHER WATCH:** A watch is issued from the Severe Storms Forecast Center in Norman, Oklahoma. Watches are generally issued for relatively large areas covering multiple counties. Watches are issued when atmospheric conditions exist within the watch area which are conducive to the formation of severe weather. Severe Weather Watches are encoded by FIPS code and transmitted by NOAA weather radio at the time of issuance.
  8. **SEVERE WEATHER WARNING:** A warning is issued when weather conditions meeting severe criteria are seen on the WSR-88D Doppler RADAR, or when severe weather phenomena is reported to the local NWS office from a reliable source such as local emergency management, law enforcement, or trained spotters.
  9. **NOAA Weather Radio**—A radio receiver specifically designed to receive transmissions in the 162.400 to 162.550 MHz range from designated NWS transmitters and which can decode and automatically activate upon receipt of either a 1050 Hz long tone or designated FIPS code for an active watch or warning. The primary transmitter for far West North Carolina is located on Joanna Bald in Cherokee County and transmits on 162.525 MHz. The primary transmitter for Clay County is located on Brasstown Bald and transmits on a frequency of 162.500 MHz. The transmitter in Blue Ridge operates on 162.475 MHz and will alert for North Georgia and Cherokee County, NC.

**MISSION STATEMENT:** To provide timely reports of potentially dangerous weather to the National Weather Service so that a warning can be issued to protect life and property. “Eyes to the Skies to Keep Everyone Alive.” Live spotter reports are also used to validate the decision to issue a warning. These validations are used in evaluating the criteria used by the WCM and the NWS staff to issue warnings.



#### ORGANIZATION:

1. Name: Southwest Carolina SKYWARN Network (MRX District 2)
2. Affiliation: North Carolina Amateur Radio Emergency Service
3. Authority: National Weather Service SKYWARN Program and its Memo of Understanding with the ARRL and ARES\*\*.
4. Membership: Amateur Radio Operators in good standing with valid FCC Issued licenses who have been trained by the NWS as Weather Spotters or Advanced Weather Spotters.

MANAGEMENT: Southwest Carolina SKYWARN will be managed by a SKYWARN Coordinator. The SKYWARN Coordinator will be appointed by the NCARES\*\*\* Section Manager based upon recommendations from the District EC and County EC and approved by the Warning Coordination Meteorologist at the National Weather Service Forecast Office in Morristown, TN. In order to insure a continuous chain-of-command, the SKYWARN Coordinator will answer and report to only one Emergency Coordinator, as determined by the Section Manager. At a minimum, the SKYWARN Coordinator must meet the following criteria:

1. Be a licensed Radio Amateur with a privilege level high enough to operate on 2 meters and 70 cm FM who is in good standing with NCARES.
2. Be a trained SKYWARN weather spotter.
3. Have experience working as a net control operator.
4. Have internet access with the ability to receive weather alerts and/or a NOAA Weather Radio allowing same.
5. Have transceiver equipment capable of operating on both 2 meters and 70 cm.
6. Have the ability to operate without commercial power.
7. Have the willingness to operate regardless of day, date, or time of day.
8. Have the ability and willingness to act professionally in dealing with officials From local, state, and federal government.

OPERATIONS: The Southwest Carolina SKYWARN Network will operate as an Amateur Radio Network using authorized net control stations. Spotters will report severe weather phenomena to the net control operator, who will in turn, report the severe weather either directly by radio to WX4MRX or by telephone to the NWS Office in Morristown, TN using the confidential 800 severe weather reporting line.

The Southwest Carolina SKYWARN Net will be called up by the WSFO Morristown, SKYWARN Coordinator, ARES EC, or other designated Net Control Station any time a Severe Weather Watch or Severe Weather Warning is issued by the NWS which affects MRX District 2 (Cherokee and/or Clay County) of Southwest North Carolina. The SKYWARN net may also be called up in the event severe weather is observed and reported, regardless of whether an official warning has already been issued.



**NET CONTROL OPERATOR:** The net control operator shall be responsible for operating a radio network for the specific purpose of reporting severe weather. The Net Control Operator will be required to maintain a log of Radio Amateurs who log into the net, and all severe weather reported during the course of the net. The Net Control Operator will send the log to the SKYWARN coordinator at the earliest convenient opportunity upon conclusion of the Net. At the minimum, the Net Control Operator should have the following qualifications:

1. A valid FCC Amateur Radio License with privileges to operate on 2 meters And 70 cm.
2. Access to a NOAA weather radio and/or internet access to obtain weather Bulletins and Warnings.
3. Transceiver equipment capable of reaching multiple local repeaters and Operation without commercial power.
4. Experience running an amateur radio net.

**SKYWARN SPOTTER:** A member trained by the NWS and holding a certificate as a Trained Weather Spotter or Trained Advanced Weather Spotter. SKYWARN Spotters provide real-time observations of severe weather. SKYWARN Spotters make these observations from their home, place of work, or other permanent structure. SKYWARN spotters are NOT Storm Chasers. Neither the National Weather Service, nor the NC Amateur Radio Emergency Service endorses, recommends, or condones the practice of Storm Chasing. Any trained spotter who intentionally engages in the act of Storm Chasing, does so at their own peril and without the endorsement of any federal, state, or local agency, and without the endorsement of the Amateur Radio Emergency Service, the Amateur Radio Relay League, or the North Carolina Auxiliary Communications Service. However, should a SKYWARN Spotter find themselves to be mobile and he or she should observe severe weather, nothing in this policy shall prohibit said Spotter from reporting the severe weather observed.

**NETWORK PROTOCOL:** The SKYWARN network will operate under four designated conditions:

1. Condition GREEN—There is no severe weather present or expected. No Watches or warnings have been issued. There is no SKYWARN net in Progress
2. Condition YELLOW—A Severe Weather Watch has been issued which Includes Cherokee and/or Clay County. An informal SKYWARN net is Activated in which the SKYWARN coordinator or designated net control Operator monitors the operational frequency for potential severe weather Reports, but all other amateur radio traffic is still permitted with requested Breaks during QSO for potential emergency traffic.



3. Condition RED—A Severe Weather Warning has been issued for either Cherokee County and/or Clay County. A formal net is activated by the SKYWARN coordinator or designee. Members checking in report the Status of the current weather at their home or other location. Otherwise, NO OTHER TRAFFIC OTHER THAN SEVERE WEATHER REPORTS Takes place over the network.
4. Condition WHITE—Post severe weather condition. The net is only placed in Condition WHITE when severe weather has caused damage to the infrastructure and the net may be required to assist local government in reporting damage, relaying messages, or making contact with important persons. This net condition can also be used to help route ARES and other NCAUXCOMM personnel around blocked access roads. Condition WHITE nets may be taken over by NCARES/NCAUXCOM as may be needed by local Emergency Management.

#### OPERATING FREQUENCIES:

1. The primary operating frequency will be on the K4AIH repeater on 147.045 MHz due to its strategic location on Joanna Bald, and the fact that WX4MRX Can communicate directly with this repeater.
2. The WCARS-Murphy K4CTE/R on 147.315 shall be used as a backup repeater in the event the 147.045 should fail, or may be linked with the K4AIH system for area wide communications.
3. Should both systems fail, communications will be on simplex 146.460, currently designated at Cherokee County TAC 1. The net control station will have to be located in a high location capable of receiving reports directly. Multiple relay stations may be required.
4. When active, liaison with the WX4MRX amateur radio station at the WSFO Morristown will be handled on the 442.250 repeater near Cleveland, TN. Direct contact with WX4MRX via the 147.045 should only be conducted by the designated Net Control operator.

#### SKYWARN NET ACTIVATION PROTOCOL:

1. The net control operator will announce the net in the following manner: A six second 1750 Hertz alert tone shall be transmitted, followed by this preamble: “QST to all radio amateurs, at (time) the National Weather Service has issued a (type of watch or warning) for (location, locations) until (time). This is the Southwest Carolina SKYWARN net. The net is now in Condition (Yellow or Red). All trained spotters are requested to check in with location and current weather conditions.” (Check-ins can be divided into geographical districts, beginning with the area first likely to be impacted).



2. Stations with valid weather equipment should report wind direction, wind speed, relative barometer and tendency, and any severe weather observed.
3. The net control operator will log the identity of each amateur radio operator. Checking in, the time of check in, the location of the spotter, and the weather conditions reported.
4. All severe weather reports shall be relayed to the NWS office in Morristown, TN as soon as possible.
5. The SKYWARN net will deactivate when, in the informed opinion of the Net Control Operator, the danger of severe weather has diminished to the point that no net is required. This will primarily be based upon warning or watch expiration or cancellation by the NWS, or the lack of severe weather observed.

**TRAINING:** All members shall be encouraged to attend bi-annual weather spotter training provided by the National Weather Service Forecast Office Morristown, TN. Members are also encouraged to improve their overall weather knowledge by taking free courses offered through [met.ucar.edu](http://met.ucar.edu).

**NOTIFICATION:** Early notification of potential SKYWARN activation will be in the form of an e-mail list for both amateur radio operators and non-radio amateur spotters. When a Hazardous Weather Outlook is issued from WSFO Morristown indicating the possibility of Spotter Activation, the precise bulletin will be e-mailed to all members of the e-mail roster. Early notification, when practical, will also be announced during the Thursday night Appalachian Emergency Net and the Thursday night Cherokee County ARES net. A cell phone SMS text list will also be maintained and will be used for notification of SKYWARN activations.

**DRILL ACTIVATION:** The SW Carolina SKYWARN net will be activated in drill mode coincident with the established Tennessee Severe Weather Awareness Week drill watch and warning, usually conducted on Wednesday between 11 am and 12 noon.

**Note:** Nothing in this policy shall prohibit the Net Control Operator from accepting severe weather reports from other Amateur Radio Operators who are not trained by the National Weather Service as Storm Spotters, however; every effort to validate the report from a trained weather spotter should be made.





\*SKYWARN and the SKYWARN Tornado-Eye emblem are registered trademarks of the National Oceanic and Atmospheric Administration's National Weather Service.

\*\*ARES and the ARES Emblem are trademarks of the Amateur Radio Relay League, a non-profit organization devoted to the promotion of Amateur Radio.

\*\*\*NCARES stands for North Carolina Amateur Radio Emergency Service and is a registered trademark used under the auspices of the Amateur Radio Relay League.

\*\*\*\*NCAUXCOMM stand for North Carolina Auxiliary Communications and operates under the auspices of the North Carolina Division of Emergency Management.