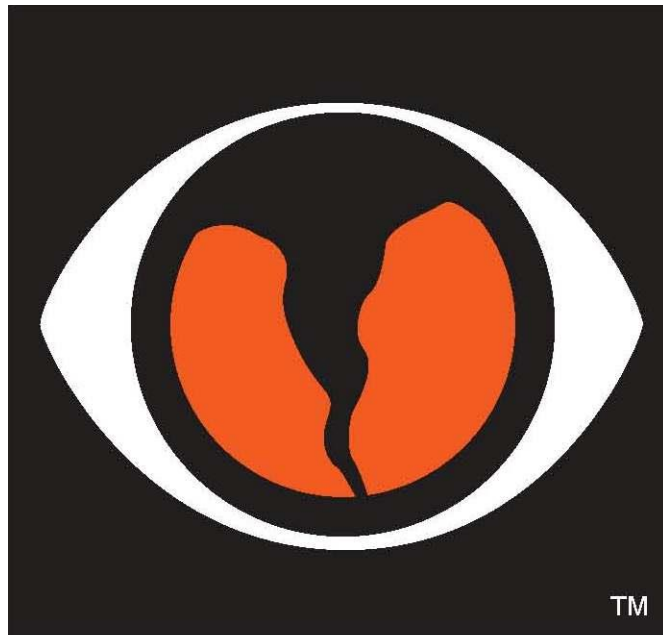


Allen County SKYWARN Net Operations Manual



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Purpose

The purpose of this document is to provide information about an amateur radio SKYWARN storm spotter net based in Allen County, Indiana.

About SKYWARN®

SKYWARN® is a volunteer program of the U.S. National Weather Service (NWS). Trained, volunteer severe weather spotters provide timely and accurate reports of severe weather to the NWS. Many (but not all) of these spotters are federally licensed amateur (ham) radio operators who use their radios to make their reports.

Allen County SKYWARN net

During periods of severe weather, amateur radio operators in and near Allen County, Indiana tune their radios to a common frequency, creating a radio *network* (net) of storm spotters; the Allen County SKYWARN net. In addition, an amateur radio station at the NWS office near North Webster Indiana (call sign WX9IWX) participates in the Allen County net when a volunteer radio operator is available.

The Allen County SKYWARN net makes use of the following repeater stations to enable maximum geographical coverage:

- **Primary repeater:** 146.88 MHz (Allen County Amateur Radio Technical Society W9INX repeater)
- **Secondary repeater (when primary unavailable):** 146.94 MHz (Fort Wayne Radio Club W9TE repeater)

The Allen County SKYWARN net manager appoints experienced amateur radio operators to serve as designated SKYWARN net control station (NCS) operators. These operators lead and facilitate on-air operations during periods of severe weather.

In the absence of a designated NCS, *any station may fill the NCS role*. Only designated NCS's, however, are provided control codes that affect repeater operations and only designated NCS's have access to NWSSchat, the National Weather Service online messaging system.

The net manager may designate a repeater or frequency, separate from the primary and secondary repeaters, as an administrative, “intercom” channel for intra-NCS communications such as coordinating NCS relief.

Allen County SKYWARN Net Operations

Operation Modes

The Allen County SKYWARN net operates in one of two modes, **standby** and **directed net**:

Standby Mode

- Severe weather is present or imminent in or near Allen County, but in the opinion of the active NCS, a directed net is not required.
- An NCS monitors the net repeater and the weather situation.
- Normal use of the net repeater continues, but repeater users are requested to keep transmissions short and leave long gaps between transmissions.

- The repeater makes a periodic voice announcement, “weather watch” and its reset tone becomes a Morse Code “W.” Note: This capability is available only on the primary, W9INX repeater.

Directed Net

- Severe weather is present or imminent in or near Allen County and:
 - A tornado warning is in effect for Allen County, Indiana (directed net always required), or
 - A liaison station from any county within range of the net repeater requests a directed net, or
 - A directed net is necessary, in the opinion of the active NCS, to handle the current or imminently expected volume of spotter reports.
- No station except the NCS (including WX9IWX) transmits, except to provide a spotter report that complies with certain criteria (below) or other emergency message.
- The repeater makes a periodic voice announcement, “weather net” and the reset tone becomes a Morse Code “N.” Note: This capability is available only on the primary, W9INX repeater.

Spotter/Liaison Procedures

Standby Mode

- **Requesting information:** During standby mode, stations may request information such as the details of a weather watch by contacting the on-duty NCS. If the call sign of the on-duty NCS is not known, stations may instead call the NCS by the tactical call sign, “net control.”
- **Making a report:** To make a report for the NWS during standby mode, stations should include in their calls to the NCS one or two words describing the report (example: “Whisky nine alpha bravo Charlie, wall cloud.”).

Directed Net

- **Contacting net control:** During a directed net, stations transmit *only* to make a criteria-compliant spotter report (see below) or to send other emergency information. At such times, stations transmit only the following; their own call signs once, phonetically, followed immediately by one or two words to indicate the nature of the report. If NWS station WX9IWX is in the net, a typical transmission sequence would sound like this:
 - **Spotter:** Whisky nine alpha bravo Charlie, wall cloud.
 - **NCS:** ABC roger, stand by. IWX?
 - **WX9IWX:** IWX.
 - **NCS:** Stand by for a wall cloud report. ABC, go ahead.
 - **Spotter:** Whiskey nine alpha bravo Charlie observed a wall cloud at one six three zero local time one mile east of Arcola.
 - **WX9IWX:** Roger, WX9IWX, National Weather Service.
 - **NCS:** W9NCS, SKYWARN net control.

Reporting Criteria

To keep the frequency clear for high-priority transmissions, during directed net mode, spotters and liaison stations will call in only to send reports of weather phenomena that meet following criteria:

- Tornado
- Funnel cloud

- Wall cloud
- Hail of any size
- Wind damage (regardless of wind speed)
- Measured wind in excess of 50 MPH (damage should be occurring at that speed).
- Weather-related injury or death
- Flooding

Such reports should include:

- Observer's identity (i.e. amateur call sign)
- Time of day the event occurred
- What was observed
- Where it was observed
- Other detail as necessary (e.g. direction of movement, description of damage, etc.).

Net Control Station Procedures

This section provides guidelines for those stations that serve as NCS's of the Allen County SKYWARN net.

Procedures Common to both Standby and Directed Net Mode

- **Coordination with other NCS's:** Before initiating operations on the net repeater, an available NCS will coordinate with each other on the administrative frequency. If no other NCS answers such a call, the calling NCS may assume that it is the only NCS available at that moment and begin operations. If a directed net is needed and an NCS has already activated standby mode, that NCS will normally control the net until and unless relieved by another NCS.
- **Frequency and situation monitoring:** During both modes, the active NCS will monitor the net repeater, the administrative channel, NWS weather statements and the weather situation until relieved, the threat of severe weather ends or the NCS is not able to continue.
- **Responding to calls:** NCS's will respond to calling stations by transmitting the *calling station's call sign*. Examples:
 - **Standby mode:** "W9ABC this W9NCS, SKYWARN net control, go ahead."
 - **Directed net mode:** "W9ABC" or simply "ABC" (see the example procedure under "Spotter Procedures," above).
- **Providing information:** NCS's may, as time permits, provide information from official NWS statements. To keep the channel clear for spotter reports, NCS's will briefly summarize NWS statements vs. reading them verbatim.
- **Getting reports to WX9IWX:** To reduce channel congestion, NCS's will avoid, whenever possible, retransmitting a station's report. Instead, NCS's will call WX9IWX and have WX9IWX communicate directly with the reporting station. See the example sequence under "Spotter Procedures," above. If a spotter gives his entire report before the NCS calls WX9IWX, it is usually only necessary to confirm that WX9IWX copied along. If WX9IWX did not copy the report, the NCS will have WX9IWX call the reporting station directly for any needed repeats. For example:
 - **Spotter:** Whisky nine alpha bravo Charlie.
 - **NCS:** ABC?

- **Spotter:** Whiskey nine alpha bravo Charlie observed a wall cloud at one six three zero local time one mile east of Arcola.
- **NCS:** Roger, stand by. IWX?
- **WX9IWX:** IWX.
- **NCS:** Did you copy ABC's wall cloud report?
- **WX9IWX:** I need the time and location.
- **NCS:** ABC, call WX9IWX and provide the information he needs.
- **Spotter:** (Provides needed information), W9ABC
- **WX9IWX:** Roger, WX9IWX, National Weather Service.
- **NCS:** W9NCS, SKYWARN net control.
- **Forwarding reports in the absence of WX9IWX:** If a spotter report comes in and WX9IWX does not answer, the active NCS will do one of the following:
 - Appoint another station to relay the report via telephone, web form or NWSChat.
 - Relay the report himself/herself via telephone, web form or NWSChat.

Standby Mode NCS Procedures

- **Standby mode implementation:** Upon completion of the coordination step (above), the active NCS will place the repeater controller in standby mode (file two, see codes in the Appendix B) and make an announcement similar to the following:

“Attention all stations, the National Weather Service has issued a (type of watch or warning) for (list appropriate counties). Allen County SKYWARN is now in standby mode. Normal use of this repeater may continue but stations are requested to keep transmissions short and leave long gaps between transmissions. This is (call sign), SKYWARN net control.”
- **Periodic NCS transmissions:** Approximately every 15 to 20 minutes, the active NCS will repeat the statement above to remind stations that standby mode is in effect and why.
- **Standby mode termination (when not followed directed net mode):** Upon termination of the operation, the NCS will return the net repeater controller to normal mode (file one). The NCS will then invite all stations on frequency to check in and be recorded on the net roster for that operation.

Directed Net NCS Procedures

- **Directed net implementation:** Upon completion of the coordination step (if necessary, see above), the active NCS will place the repeater controller in directed net mode (file three) and make an announcement similar to the following:

“Attention all stations, the National Weather Service has issued a (type of warning) for (list appropriate counties). This is a directed net. Please transmit only to send weather reports that meet National Weather Service reporting criteria, or other emergency traffic. Such reports are welcome from all spotters inside and outside Allen County. To contact net control, transmit your call sign and a word or two about what you're reporting and then wait for acknowledgement. This is (call sign), SKYWARN net control.”
- **Check-ins:** Net check-ins are not accepted at this time, except from stations who have criteria-compliant reports to make. If a station checks in without a report, the NCS will remind all stations to

transmit only to send weather reports that meet National Weather Service reporting criteria, or other emergency traffic.

- **Handling calls from other stations:** During a directed net, the active NCS will answer any calls from other stations by transmitting *the other station's call sign only* (or just the other station's suffix).
- **Requests from NWS:** From time to time, WX9IWX may call with a request for observations from a particular area. When that happens, the NCS will put out a general call for any stations in the specified area, regardless of whether they have a criteria-compliant report. If any stations answer, the NCS will have WX9IWX communicate directly with them.
- **Periodic NCS transmissions:** At least *every 10 minutes* during quiet periods, the active NCS will make a brief transmission reminding stations that a directed net is in progress and why, transmitting an announcement similar to the one used to begin the directed net (above).

Such reminder transmissions are necessary only during quiet periods. If the net is busy with traffic, the existence of a directed net will be obvious and reminder transmissions will not be required. If the net frequency remains quiet for 20 minutes, the active NCS should consider whether a directed net remains necessary.

- **Directed net termination:** When the need for a directed net ends, the NCS will return the net repeater controller to either standby mode (file two) or normal mode (file one), depending on the situation. The NCS will then invite all stations on frequency to check in and be recorded on the net roster for that operation.
- **Logging and reporting:** All NCS's will record the start and end time of every directed net (or the portion of a directed net they control) as well as a list of stations that made reports or checked in at the end of the net and the number of reports made. NCS's will send a report containing that information to the net manager within seven calendar days of the operation. The net manager will compile monthly reports and send them to the Allen County Amateur Radio Emergency Service (ARES) emergency coordinator.

Appendix A — Spotter Quick Reference

Reporting Criteria

- Tornado
- Funnel cloud
- Wall cloud
- Hail of any size
- Wind damage (regardless of wind speed)
- Measured wind in excess of 50 MPH
- Weather-related injury or death
- Flooding

Report Elements

1. Observer identification
2. Time of observation
3. Type of event
4. Location
5. Damage (if any)
6. Duration
7. Size of hail (if reported)
8. Direction of movement
9. Wind speed (if damage observed) and whether measured or estimated
10. Injuries/fatalities (if any)
11. Flooding (if any)

Making Contact during Standby Mode

“Net control, this is (your call sign phonetically)” or, if you have a report, “(Your call sign phonetically), (report type),” e.g. “Whiskey nine alpha bravo Charlie, wind damage.”

Contacting Net Control during a Directed Net

(Your call sign phonetically), (report type), e.g. “Whiskey nine alpha bravo Charlie, wind damage.”

During a directed net it is unnecessary to include “net control” or the NCS call sign in your call.

Appendix B – Net Control Operator Quick Reference

NCS's will fill in the blanks below on their own copies.

Administration Frequency

Standby Mode

- **Repeater code:** _____
- **When to use:** At NCS discretion, when traffic volume or immediately expected does not necessitate a directed net.
- **What to say:** “Attention all stations, the National Weather Service has issued a (type of watch or warning) for (list appropriate counties). Allen County SKYWARN is now in standby mode. Normal use of this repeater may continue but stations are requested to keep transmissions short and leave long gaps between transmissions. This is (call sign), SKYWARN net control.”

Directed Net

- **Repeater code:** _____
- **When to use:**
 - A tornado warning is in effect for Allen County, Indiana (not optional).
 - A liaison station from another county requests a directed net.
 - The on-duty NCS determines that a directed net is warranted (for example, due to the amount of traffic or expected traffic).
- **What to say:** “Attention all stations, the National Weather Service has issued a (type of warning) for (list appropriate counties). This is a directed net. Please transmit only to send weather reports that meet National Weather Service reporting criteria, or other emergency traffic. Such reports are welcome from all spotters inside and outside Allen County. To contact net control, transmit your call sign and a word or two about what you're reporting and then wait for acknowledgement. This is (call sign), SKYWARN net control.”

Normal Mode

- **Repeater code:** _____
- **When to use:** When severe weather no longer threatens the area.
- **What to say:**

“This is (call sign), Allen County SKYWARN. We now return the repeater to normal operation and thank all stations for their cooperation. Please standby for control input (enter code). Any stations wishing to be placed on the roster for this operation may call now.”