

**TRAINING**  
**For**  
**SKYWARN NET PARTICIPANTS**

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Weather nets are primarily concerned with what we are observing RIGHT NOW. Always remember that your first priority for reporting events is to furnish information used to warn people so that they may seek safety and avoid injury or death. The second priority is to safeguard property from as much damage as possible. Property can be replaced . . . Life cannot.

NET A: The unfortunate truth . . . what it often is.

A weather net that is manned by untrained observers and inexperienced Net Control Station is very easy to identify. There is endless chatter about rainfall, thunder and lightning, and mobile units are going every which-way. The Net Control Station has given poor (if any) instructions, has very little control of anything, is often ignored, and is constantly plagued with repeated requests for direct contacts between participating operators; resulting in meaningless personal chatter. The majority of net communications have absolutely nothing to do with severe weather. If it applies, this is an unfortunate, unnecessary, and dangerous situation. It is a negative reflection on the Amateur Radio Service and your local organization..

NET B: The ideal.

A weather net manned by well trained observers and Net Control Station operators, is quiet by comparison. The NCS is in total control. Instructions have been clear, concise, repeated often and are carefully observed by the spotters. Spotter reports are related only to true severe weather conditions. There is no talk of rain, lightning or thunder. There is no idle chatter. The Spotters are working from stationary, preassigned observation points. Mobile units are at a minimum and only move at the request of the NCS. It's professional, it's efficient, it's valuable, it has a positive impact, and it's safe for everyone.

# WHAT TO DO (AND NOT DO) ON THE RADIO

**Rule #1.** The Net Control Station is in **complete charge** of a directed net. Do not engage in any transmission without permission from the NCS.

**Rule #2. LISTEN, LISTEN, LISTEN AND LISTEN** constantly and especially before transmitting.

**Rule #3.** Net Control will give net check-in instructions and observation requests at the beginning of a net and repeat them as often as possible. Stations should check into the net as instructed and Report **only** those things that Net Control has requested. Please pay attention to these requests, as they may change during the course of the net operation.

**Rule #4.** Once you have checked in to **any** net, **do not leave that frequency without notifying the Net Control Station (NCS).**

**Rule #5.** If you are given an assignment to be in a particular place, go there and stay there. Do not move from your position or your transmitter without notifying the NCS; unless you are in immediate danger.

**Rule #6.** If it is imperative that you must communicate directly with another operating station on the net, ask for permission from the NCS. Ragchewing, little side comments and personal transmissions are not to be made during a directed net.

**Rule #7.** DO NOT check-in in the middle of fast moving net activity, unless of course, you have a true emergency.

**Rule #8.** If, during a weather net, an event (like a tornado touchdown) takes place, a net control operator may announce that there is a RESOURCE, TACTICAL or STANDBY NET on another frequency or repeater. **Stay on your Skywarn assignment until the Skywarn NCS tells you otherwise.** These new nets are "holding areas" where people are sent to await assignments. The resource net will have it's own NCS. If there is a Resource Net in operation, any New Stations checking in should do so on the Resource net.

## FIELD SPOTTING GUIDE

**WHAT TO REPORT:** ALL reports *must* contain **T.E.L.** information.(Time, Effect, Location)

**TORNADO ON THE GROUND** - A lot of associated debris will be present in the formation. Definite and concentrated rotation is present. **T.E.L.**

**FUNNEL CLOUD** - Virtually no debris, if any at all. Formation will usually be sucking in and/or giving off smaller rotating clouds. Note: A funnel cloud is not a tornado . . . it's not on the ground. **T.E.L.**

**WATERSPOUT** - Moving towards land or moving away from land. **T.E.L.**

**RAIN - Doesn't Matter!!** Reportable **ONLY** if there is an imminent danger of flash flooding or if rainfall is at or over inches per hour.

**THUNDER - Doesn't Matter!!** NEVER reportable.

**LIGHTNING - Doesn't Matter!!** Reportable **ONLY** if it has started a fire, hit electrical service components, knocked a tree or pole into a roadway, or hit a building, vehicle or person(s). If lightning is coming from a cloud that is very close to the ground, showing signs of rotation, sucking up debris and smaller clouds, and moving toward you, call NCS and move or take cover.

**WALL CLOUDS** - Make sure it's not a rain column!! A rain column will extend all the way to the ground; a wall cloud won't. Make sure it isn't a Shelf Cloud. A Shelf Cloud will usually have a "tail" that is fairly level and pointing in the same direction the storm is moving. A Wall cloud "tail" (if one is present) will be *trailing* the direction of the storm and often points downward. Wall Clouds can and do rotate. Shelf Clouds do not.

**ROTATION** - Localized small rotations of short duration are common and not reportable. Rotation of a major nature and/or formation is to be reported if it is sustained and can be confirmed. If you are not sure of rotation, report exact location of the suspected formation so that others may observe and confirm. This is nearly always necessary and most important after dark and during heavy rainfall, when your vision is restricted.

**DRASTIC SUSTAINED WIND SPEED CHANGES** - especially if rotation is present in cloud structures.

**WIND RELATED REPORTABLE OBSERVATIONS:** These are only things which you are actually seeing happen. Do not report what happened a short time ago unless injuries are involved.

Report any wind gusts of 60 MPH or more. (See wind chart)

MULTIPLE trees being blown down or uprooted

Breakage of tree limbs 4 inches in diameter or larger

Downed power lines

Commercial broadcast tower damage

Large permanent sign damage

Windows broken by wind (not debris)

MULTIPLE home TV antennas being blown over/down

Roofing being blown from buildings/homes

Wind-caused vehicle accidents (only if you observe the actual event)

Injuries to people.

SEVERE mobile home damage

MAJOR structural damage to buildings

**HAIL** - ALL hail should be reported.

**SIZES:**

Pea size = 1/4 inch

Marble size = 1/2 inch

Dime size = 3/4 inch

Quarter size = 1 inch

Golfball size = 1 3/4 inch

Baseball size = 2 3/4 inch

## **FIELD SAFETY**

STAY PUT!! Do not "chase" any storm if you have not been specially trained and assigned to do so. Skywarn training does not qualify anyone as a chaser. Most spotting should be done from a Spotter's home or very close to it. Stationary observers with an open and clear view are preferred. It is very important that the NCS knows exactly where his observers are located. Chasing can be extremely dangerous for even highly trained observers and deadly for the untrained.

Cars are pretty safe places to be in the presence of lightning and very unsafe places to be in a tornado.

When spotting outdoors, always have a safe place picked out to protect yourself from large hail and high winds. Don't wait for the wind to get so strong that you can't get to cover!

Don't drive across fast moving water. Six inches of fast moving water can take control of, and move, a small car.

Large hail can **KILL!** Take cover!!

## **GENERAL WEATHER STUFF TO REMEMBER**

Strong thunderstorms always have anvil shaped tops to the clouds. The more pronounced the "overshoot" above the anvil, the stronger the storm. The more vertical the "stem" of the storm cloud, the stronger the storm.

Storms are frequently preceded by a "Gust Front". The strongest winds associated with a storm are often the first ones that reach you.

If there is a rain free base beneath a bank of clouds, this is where updraft air currents will occur. Watch along the rain free base for formation of wall clouds. A wall cloud will form 15-to 20 minutes before a tornado forms. Wall clouds do not, however, always spawn tornadoes. Usually a wall cloud /tornado formation will occur at the trailing, or "back" edge of the thunderstorm.

Large hail falls just ahead of a tornado in many cases; but not always. This is more common in the case of a large tornado. The presence of hail is a warning sign that things could get serious in a hurry.

Radar cannot truly see a Wall Cloud or a Tornado!! ONLY a Spotter can actually verify the presence of a Wall Cloud or Tornado.

A Tornado may or may not have a clearly defined funnel cloud.

Tornadoes usually move in a Southwest - to - Northeast path. The best place to look for a tornado is in the South-to-West quadrant of the horizon.

Most tornadoes move across land at about 25 to 35 miles per hour; but they *can* move at twice that speed!!

## **HOW TO ESTIMATE WIND SPEED**

### **BEAUFORT CHART**

#### **MPH OBSERVATIONS**

0 Smoke will rise vertically

1 - 3 Smoke will show slight direction but there is not enough wind to move a wind vane.

4 - 7 You will feel a breeze on your face, smoke has definite direction, leaves move a bit and a wind vane will move.

8 - 12 Leaves will be in constant motion, small twig branches move, flags extend.

13 - 18 Dust puffs blow, loose paper flies, 1/2 to 1 inch branches move.

19 - 24 Small leafy trees sway and small waves will form on ponds & lakes, flags whip.

25 - 31 4 inch & larger branches moving, telephone, power wires & chain link fences whistle.

32 - 38 Large, whole trees in motion, becomes hard to walk totally upright against the wind. Shingles begin to lift.

39 - 46 Green twigs begin to break off. You have to lean into the wind to walk. Shingles flap violently.

47 - 54 3 inch or larger green branches break. Chimneys & shingles begin to tear off. TV antenna masts bend and antennas are destroyed.

55 - 63 Trees begin to uproot. Structural damage starts getting serious. Large sections of roofs and roofing tear off and fly. Patio roofs and awnings destroyed. Some

Mobile homes begin to suffer damage. Walking nearly impossible.

64 - 72 Structural damage widespread and major. Mobile homes skins peel. Entire roofs blow off and windows blow in. Mobile homes displaced. Cement block parapets begin to collapse.