

Amateur Radio, Why?

WA5WNI

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73s From the Great Nation of Texas



Why Does Amateur Radio Exist?

- Or, what good are we anyway?
- A presentation on why the Amateur Radio Service exists, not applicable to individuals. | We all got in it to have fun.

A little history

- The first radio “broadcasters were amateurs. Tesla, Marconi and others.
- Rapid expansion to thousands of transmitters by 1910. Problems ensued, interference, etc.



Radio Act of 1912

- Passed as a result of the sinking of the Titanic.
- Restricted private stations to wavelengths of 200 meters or shorter (greater than 1,500 kilohertz).
- Began licensing of American Amateur Radio Operators.
- The term “ham” was introduced as a taunt by commercial operators due to the often “ham fisted” code produced by amateurs.

The Great War (World War I)

- In 1917, amateur radio was halted. Congress ordered amateur radio operators to cease operation and dismantle their stations.
- Restrictions were lifted in the war ended and in October 1, 1919, the amateur radio service was restarted.

Radio Act of 1927

- Established Federal Radio Commission
- Established operational standard for broadcast licenses: to serve “The public interest, convenience or necessity” (PICON)
- Established regulatory framework to ensure broadcasters “behaved themselves”.
- Established a “trustee” relationship, whereby broadcasters were the trustees of the public airways.

Public Interest, Convenience or Necessity. Huh?

- Introduced in the Radio Act of 1927 as the “trusteeship” model of broadcasting.
- At the very core of allowing operation on the nation’s airways.
- Not just amateur, but all users of the Nation’s bandwidth.
- We exist because we fit this model. But how?

Communications Act of 1934

- Beginning of Modern regulation of wire and radio communication.
- Replaced Federal Radio Commission Federal Communication Commission.
- Extended Act of 1927 to include television and cable.

World War II

- During World War II, Congress again suspended all amateur radio operations.
- Most amateur radio operators joined the military prompting the creation of the War Emergency Radio Service.
- After the war, once again amateur radio was reinstated.

§97.1 Basis and Purpose

- The rules and regulations in this part are designed to provide an amateur radio service having a fundamental purpose as expressed in the following principles:
 - (a) Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications.

- (b) Continuation and extension of the amateur's proven ability to contribute to the advancement of the radio art.
- (c) Encouragement and improvement of the amateur service through rules which provide for advancing skills in both the communication and technical phases of the art.
- (d) Expansion of the existing reservoir within the amateur radio service of trained operators, technicians, and electronics experts.
- (e) Continuation and extension of the amateur's unique ability to enhance international goodwill.

War Emergency Radio Service (WERS)

- Purpose
 - Provide communication in connection with air raid protection.
 - Provide communication during times of natural disasters.
- WERS operators were given communities, not individuals.
- Requirement to participate in WERS was to hold an Amateur Radio License.
- Operating frequencies
 - 2 ½ Meters (112 – 116MHz).
 - 1 ¼ Meters (219 – 225MHz).
- Predecessor to Radio Amateur Civil Emergency Service

What public service can I perform?

- Just being an amateur radio operator
- Being a member of a club
- Recruiting others
- Join a public service group.

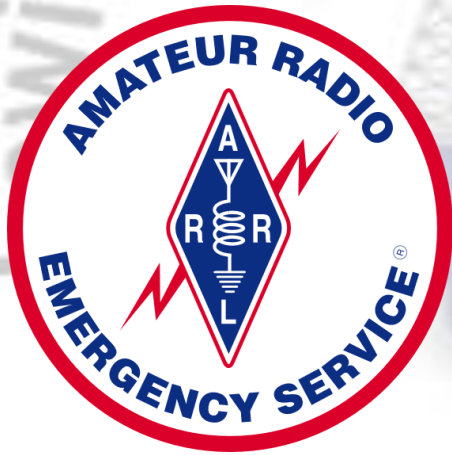


Radio Amateur Civil Emergency Service

- Provided for in Part 97.407
- Established under input from ARRL and Army's Office of Civil Defense
- In WWII, Amateur Radio silenced, WERS took 6 months to establish
- Requires prior registration with state and local governments.
- Other amateur operations may be cancelled when activated.
- Many members also members of ARES.



Amateur Radio Emergency Service



- Organized and sponsored by ARRL and Radio Amateurs of Canada
- Provides a corps of trained amateur radio operator volunteers.

RACES vs. ARES

- RACES is more formal.
- RACES must be activated by officials
- ARES is less formal
- Individual ARES member can self-activate.



ARES Requirements

- Only requirement is an amateur radio license
- Full participation may require further training.



Denton County ARES

- Required Training
 - FEMA IS-100b Introduction to ICS
 - FEMA IS-700a National Incident Management Systems (NIMS) Introduction
- Follow-on training
 - ARRL Introduction to Emergency Communication
 - FEMA IS-200b ICS for Single Resources and Initial Action Incidents
 - FEMA IS-800B National Response Framework – An Introduction
 - FEMA IS-802ESF #2 – Communications
- Advanced training
 - ARRL Public Service and Emergency Communication Management for Radio Amateurs
 - Red Cross – First Aid/CPR/AED

Community Emergency Response Team

- Citizen Corps program under DHS.
 - Citizen Emergency Response Team
 - Fire Corps
 - Neighborhood Watch
 - Medical Reserve Corps
 - Volunteers in Police Programs
- Affiliated Organizations
 - American Radio Relay League
 - American Legion
 - NOAA
 - CAP
 - Others.



Skywarn



SKYWARN

- Program under the National Weather Service
- Consists of a network of Storm Spotters.
- Many storm spotters are also amateur radio operators.
- Requirements
 - Ability to sense the weather
 - Communication device
 - Telephone
 - Tin can and string to neighbor with phone
 - Amateur Radio
 - Training

Storm Spotting vs. Storm Chasing

- In a word, SAFETY!
- Storm spotters are directed by the NWS and observe from a distance.
- Storm chasers get much, much closer
- If you are perceived as taking risks, your storm spotting career will come to an unceremonious end.

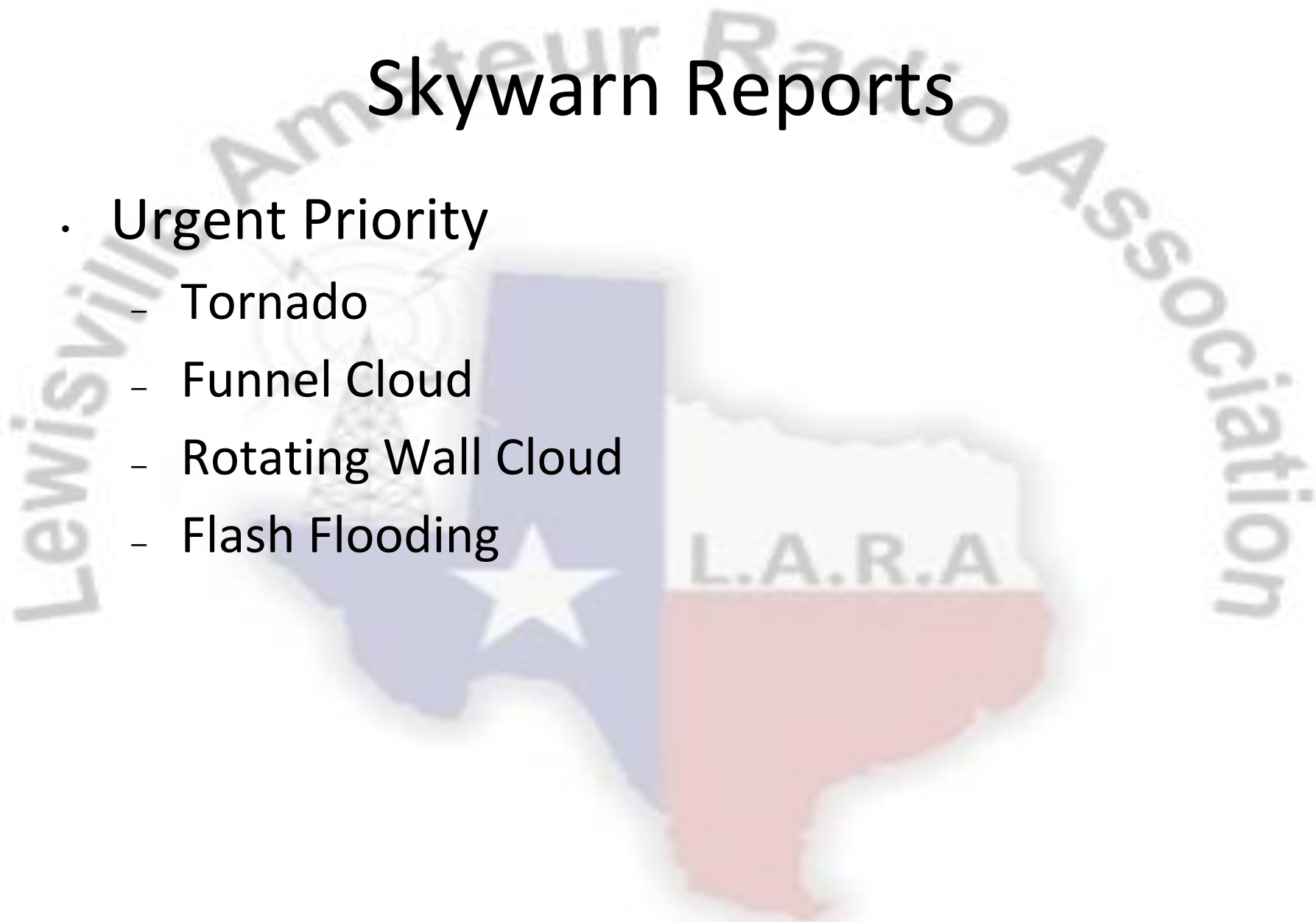
Skywarn in Operation

- Spotters communicate with net control, net control relays reports to NWS.
- NWS has a number of radio stations, and amateur radio operators on staff.



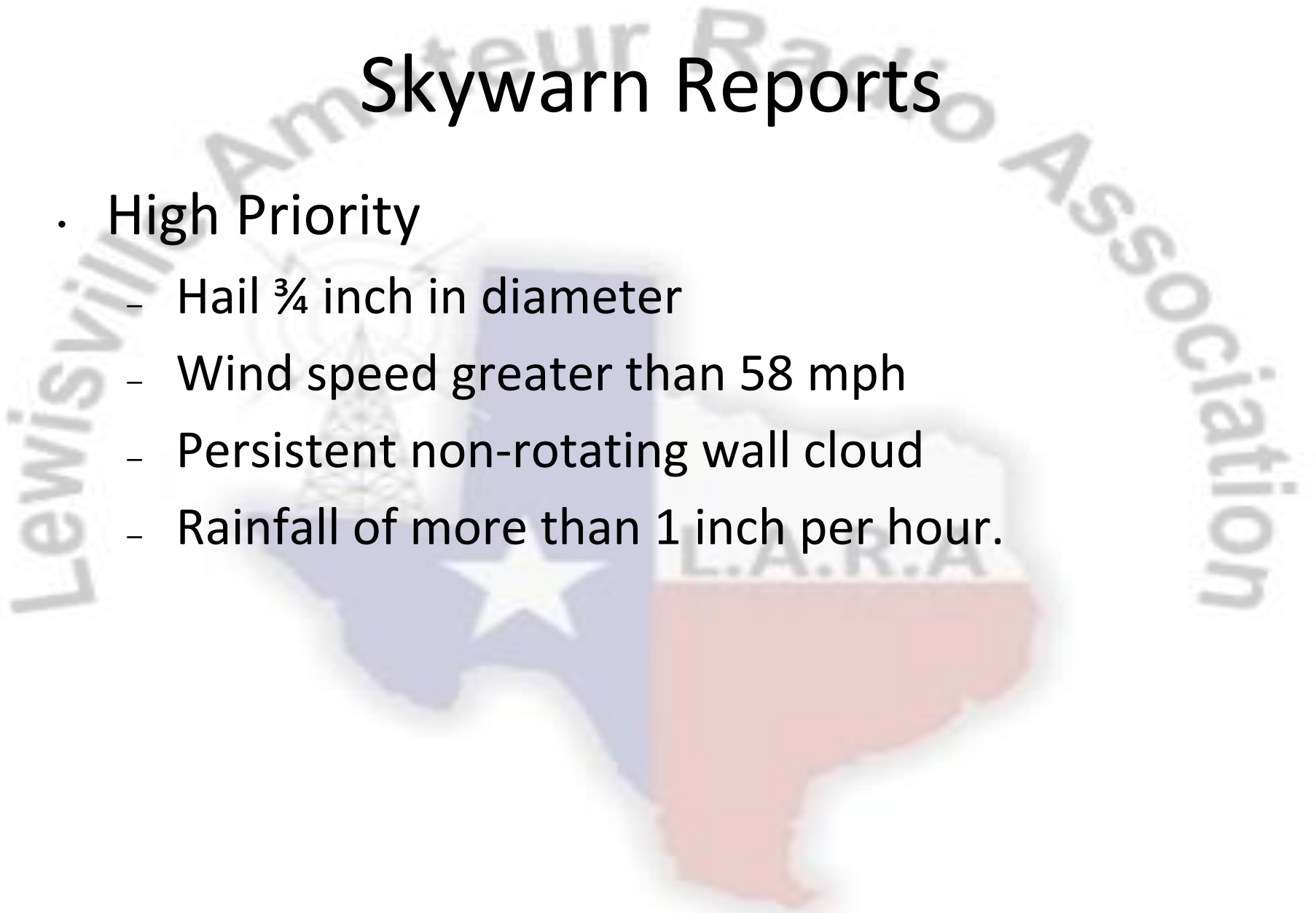
Skywarn Reports

- Urgent Priority
 - Tornado
 - Funnel Cloud
 - Rotating Wall Cloud
 - Flash Flooding



Skywarn Reports

- High Priority
 - Hail $\frac{3}{4}$ inch in diameter
 - Wind speed greater than 58 mph
 - Persistent non-rotating wall cloud
 - Rainfall of more than 1 inch per hour.



Skywarn Reports

- Lower Priority
 - Hail $\frac{1}{2}$ inch diameter or larger (NCS may lower to pea size).
 - Wind speed greater than 40 mph
 - Cloud features suggesting storm organization
 - Other locally defined criteria

What NOT to Report

- Reports from media
- Your interpretation of radar data.
- Anything not related to the current activation and not of an emergency or urgent nature.
- NOTE: in the case of an emergency, rules necessary to be violated may be to the extent made necessary by the emergency.

Tools of spotting

- Knowledge of what you are reporting
- A means of communication (amateur radio most likely for us).
- Other useful tools:
 - Automatic Packet Reporting System (APRS) for location information.
 - GRLevelX Radar display tool.
 - Weather instruments(?)

Skywarn Training

DATE	COUNTY	CITY	LOCATION	TIME
*Saturday Feb 24	*Denton	*Denton	*Texas Womans University-Margo Jones Performance Hall	*9:00AM-12 Noon(basic) 1:00-4:30PM(adv)
Wednesday Jan 17	Anderson	Palestine	Courthouse Annex	6:00-8:00 PM
*Saturday Jan 20	*Collin	*Cancelled	*Cancelled	*8:30AM-12 Noon(basic) 1:00-4:30PM(adv)
*Saturday Jan 27	*Tarrant	*Fort Worth	*South Hills High School	*8:30AM-12 Noon(basic) 1:00-4:00PM(adv)
*Thursday Feb 8	*Grayson	*Denison	*Grayson College Center for Workplace Learning Auditorium	*6:00-9:00PM
*Saturday Feb 10	*Bell	*Belton	*Belton New Tech High School (Cafeteria)	*9AM-12 Noon(basic) 1:00-4:30PM(adv)
Monday Feb 12	Wise	Decatur	Wise County Fairgrounds - Women's Building	7:00-9:00PM
Tuesday Feb 13	Cooke	Gainesville	Gainesville Civic Center	7:00-9:00PM
Thursday Feb 22	Hunt	Greenville	F. Warren Civic Center	6:00-8:00PM
Thursday Mar 1	Ellis	Waxahachie	Southwestern Assemblies of God University - Hagee Communication Center Multipurpose Room 1050	6:30-8:30PM
*Saturday Feb 16	*Dallas	*Garland	*Granville Arts Center	*9:00AM-12 Noon(basic) 1:30-4:00PM(adv)

Web Sites

- <https://www.skywarn.org/>
- <https://www.weather.gov/skywarn/>
- <https://www.weather.gov/fwd/skywarnsch?sptrsch>
- <https://www.weather.gov/fwd/skywarn>
- <http://www.spotternetwork.org/>
- <http://www.grlevelx.com/>
- <https://earth.nullschool.net/>
- http://www.nws.noaa.gov/radar_tab.php
- <https://mesoanalysis.com/>
- <https://www.spc.noaa.gov/exper/soundings/>
- <https://www.spc.noaa.gov/>
- <http://www.denton-ares.org/>