SANTA CRUZ

A R E S

HANDBOOK

By

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Santa Cruz ARES

Foreward

The Santa Cruz Amateur Radio Emergency Services (SCARES) organization is comprised of Amateur Radio operators who have registered their qualifications, and made themselves, and their equipment, available for disaster communication duty. Every licensed amateur is eligible for membership in the SCARES. The only qualification, other than holding a valid license of technician or higher class, is a sincere desire to serve.

ARES does not declare emergencies, but rather responds to the call for assistance from those agencies which have that responsibility. Every disaster is unique. No plan can forsee the exact circumstances of any forthcoming event. It behooves emergency organizations to prepare for all possible situations. The planning and training conducted by ARES has that primary goal---as does on-going liaison with the agencies to be served.

ARES may be called upon to supply communication services where no established links exist, or to supplement existing systems when they become disabled or overloaded. The communications systems of Public Safety organizations are designed to routinely handle emergency situations. It is not feasible for them to also maintain resources which can meet the demands of all major disasters. In those instances, the Radio Amateurs serve to complement existing governmental and disaster agency communications resources. Services provided by amateurs may include:

1. Communication between Santa Cruz County and other governmental agencies.

2. Communication between county officials and other officials of local government or state agencies.

3. Inter-communication between county, municipal and state public service organizations.

4. Supplemental communication services to disaster relief organizations, including the American Red Cross and Salvation Army.

5. Supplemental communication services to hospitals and other medical resources.

6 Health and Welfare communications for the general public.

7. Additional public service communications as required.

This manual has been organized into two sections. The first provides a quick reference source of operational information, for those who are already familiar with proper operating techniques and procedures. Section two provides more in-depth general operational information for disaster communicators.

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Section I

Ready References for Disaster Communications

Santa Cruz ARES

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ARES may serve the following organizations in disaster situations involving their jurisdictions. Locations and telephone numbers are given.

Agency	Eqpt	Location	City	Telephone
American Red Cross	*	2960 Soquel Avenue	Santa Cruz	462-2881
American Red Cross		351 E. Lake Ave.	Watsonville	722-3801
Ben Lomand Fire Department		Ben Lomand		336-5495
Bonny Doon Fire Department		Bonny Doon		426-1561
Boulder Creek Fire Department	**	Boulder Creek		338-7222/338-2542
Brookdale Fire Dept.		Brookdale		Call Boulder Creek
California Highway Patrol		10395 Soquel Drive	Aptos	662-0511
Capitola Police Department		422 Capitola Ave.	Capitola	475-4242
Civic Auditorium		307 Church St.	Santa Cruz	
Community Hospital Santa Cruz	*	610 Frederick	Santa Cruz	426-3282
Community Hospital/Watsonville	*	Green Valley & Holohan Roads	Watsonville	724-4741
County Communications (OES)	*	701 Ocean Street	Santa Cruz	425-2355
Department of Forestry		Corralitas Road	Coralitas	
Department of Forestry	*	6059 Highway 9	Felton	335-5355
Dominican Hospital	*	1555 Soquel Drive	Santa Cruz	462-7700
Emergecare Medical Clinic		6800 Soquel Drive	Aptos	662-3611
Felton Fire Department		Felton		335-4422
National Weather Service		Redwood City		415/364-4610
Office of Emerg.Serv., SC Co.		701 Ocean Street	Santa Cruz	425-2045
Pacific Gas & Electric		Santa Cruz		426-8300
Pacific Telephone		Santa Cruz		649-2189
Salvation Army	**	721 Laurel Street	Santa Cruz	426-8365
Santa Cruz County Sheriff		701 Ocean St.	Santa Cruz	425-2121
Santa Cruz Fire Dept.		711 Center St.	Santa Cruz	429-3600
Santa Cruz Med Clinic		2025 Soquel Ave	Santa Cruz	423-4111
Santa Cruz Med Clinic		4615 Scotts Valley Dr.	Scotts Valley	438-1711
Santa Cruz Police Department		809 Center	Santa Cruz	429-3714
Scotts Valley Fire Department		7 Erba Lane	Scotts Valley	438-0211
Scotts Valley Med Clinic		2980 El Rancho Dr.	Scotts Valley	438-1430
Scotts Valley Police Dept.		370 Kings Village Rd	Scotts Valley	438-2326
Toxic Info Center				800/233-3360
Watsonville Fire Department		Station 2 - 370 Airport Blvd	Freedom	728-6066
Watsonville Fire Department		Station 1 115 2nd St.	Watsonville	728-6060
Watsonville Police Department		215 Union	Watsonville	728-8104
Zayante Fire Department		Zayante		335-5100

* Amateur Radio Equipped
** 2 Meter Antenna Installed

Served Agency Locations

This section provides detailed instructions for reaching the various locations that are likely to be manned during a disaster operation. The coordinates given refer to the maps on pages I-13 and I-14.

SANTA CRUZ COUNTY OFFICE OF EMERGENCY SERVICES (OES)
701 Ocean Street
Santa Cruz, CA 95060
Telephone 408-425-2045 E-5 on Map 1

From Highway 17 north: Highway 17 ends at the junction with Highway 1. Continue on the Ocean Street exit toward downtown Santa Cruz. Drive 0.7 miles to the intersection with Water Street (traffic light). The building ahead on the right side is the County Governmental Center. Proceed across the intersection and turn into the parking lot.

From Highway 1 south: Follow the highway to the downtown Santa Cruz exit (junction with Highway 17). Take the Ocean Street exit. Drive 0.7 mile to the intersection with Water Street (traffic light). Proceed through the intersection and turn right into the parking lot of the County Governmental Center.

From Highway 1 north: When Highway 1 enters Santa Cruz it becomes Mission Street. After about 2 miles, Highway 1 makes a left turn, however you must continue on Mission. Continue on past this intersection for 0.5 mile, across the San Lorenzo River bridge. Just beyond the bridge, on the right, is the County Governmental Center. Make a right turn into the parking lot.

From the parking lot walk to the entrance farthest to the left of the five story building. To the left of the stairs you will find the entryway to the basement of the building. During an emergency you will require a county issued ID card to enter the building. If you have no card, an escort will be required. Proceed down the hallway past the Municipal Court Room. Enter the next door on the left. This area becomes the Emergency Operating Center during emergencies. The ARES/RACES communications room is at the rear of this office.

AMERICAN RED CROSS, SANTA CRUZ CHAPTER
2960 Soquel Avenue
Santa Cruz, CA 95060
Telephone 408-462-2881 C-11 on Map 1

From Highway 1 north: Proceed south on Highway 1 to the Soquel Avenue exit. Turn left at the exit, onto Soquel Avenue. Turn right into the parking lot 1/2 block beyond the traffic light.

From Highway 1 south: Take the Soquel Avenue exit, then turn left at the traffic light, and cross the freeway. Turn left at the next traffic light and proceed 0.2 mile to the Red Cross. Look for the tall flagpole in front. Make a right turn into the parking lot. Enter the building through the front entrance. The amateur radio room is at the rear of the building.

DOMINICAN HOSPITAL
1555 Soquel Drive
Santa Cruz, CA 95060
Telephone 408-476-0220 B-11 on Map 1

From Highway 1 north: Take the Soquel Avenue exit. Bear to the right. Make a right turn at the traffic signal and cross the freeway to the next traffic signal. Passing through this intersection, make a left turn into the Dominican Hospital parking lot.

From Highway 1 south: Take the Soquel Avenue exit. Turn right at the traffic light, then turn left into the hospital

parking lot.

Enter the Emergency Room entrance of the hospital--to the right of the main entrance. The amateur radio area is located in an office adjacent to the admitting desk. If the radio equipment is not in place, it will be found in the security office.

AMERICAN RED CROSS, WATSONVILLE CHAPTER
351 Lake Avenue
Watsonville, CA 95076
Telephone 408-722-3801 H-11 on Map 3

From Santa Cruz: Take Highway 1 south to the Highway 152 exit. Follow 152 until it turns eastward on East Lake Avenue. Look for the Red cross about 1 1/2 blocks farther on the left side of the street.

From Monterey or Salinas: vai Highway 1 take the Highway 129 East exit. Proceed to Main Street(traffic light). Turn left to Highway 156. Proceed on 156 until it becomes East Lake. About 1 1/2 block farther look for the Red Cross on the left side of the street.

From Highway 156 east: continue westward after it becomes East Lake Avenue. Look for the Red Cross on the right side of street.

From Highway 129: east continue to Main Street (traffic light). Turn right to Highway 156. Proceed east on 156 until it becomes East Lake. Look for the Red Cross about 1 1/2 blocks further on the left side.

CALIFORNIA DIVISION OF FORESTRY AND FIRE PROTECTION
6059 Highway 9
Felton, CA 95018
Telephone 408-335-5355 H-7 on Map 4

From Highway 17 north or south: Take the Mount Hermon exit at Scotts Valley. Proceed 3.8 miles through Scotts Valley and to the intersection of Graham Hill Road (7th traffic light). Turn right, then left on Highway 9 at the next traffic light. Proceed 0.3 mile to the CDF station on the right side of the road.

From Highway 1 north or south: Take the Highway 17 exit. Proceed on 17 as outlined above.

The amateur radio installation is located at the rear of the facility, adjacent to the antenna tower.

SALVATION ARMY
721 Laurel Street
Santa Cruz, CA 95060
Telephone 408-426-8365 F-4 on Map 1

From Highway 1 north: drive 2.0 miles from the Santa Cruz City limit sign. Turn right on Laurel Street (5th traffic light). Travel 0.4 mile. The building is on the right side of the street.

From Highway 1 south or from Highway 17: proceed north on Highway 1.5 miles from the junction with 17 to Laurel Street (5th traffic light). Turn left 0.4 mile to the building which is located on the right side of the street.

A 2 meter antenna and a 12 volt power supply are available for use with volunteer supplied radio equipment.

COMMUNITY HOSPITAL OF WATSONVILLE
298 Green Valley Road
Watsonville, CA 95076
408-724-4741 E-9 on Map 3

From Highway 1 north or south: Take the Airport Boulevard exit. Proceed 2.2 miles to Green Valley Road. (After crossing Freedom Boulevard, the road becomes Holohan Road.) Turn right into the Hospital parking lot, after crossing Green Valley.

From Highway 156 east: turn right at Holohan Road (1st traffic light). Travel 1.5 miles to the hospital drive, on the left just before Green Valley Road.

From Highway 129 east: turn right on Main Street (traffic light). Follow 156 west to Green Valley Road. Turn right and proceed to the hospital which will be on the right side, and the intersection with Holohan Road.

The radio equipment is located in the admissions area. Contact the Security Department for assistance.
Map 1 and 2
Map 3 and 4

ARES Communications Resources

The following frequencies will normally be utilized during mobilization of the Santa Cruz Amateur Radio Emergency Service.

REPEATERS

LOCATION	OUTPUT FREQUENCY	INPUT FREQUENCY	CALL	ARES FUNCTION _
Santa Cruz	146.790	146.190	K6BJ	Primary Net Operations* 1 2
Watsonville	147.945	147.345	KI6EH	Primary Net Operations* 1 2
San Lorenzo Valley	147.120	147.720	N6RZ	Primary Net Operations 2
Santa Cruz Co.	440.850	445.850	N6IYA	Situation Coordination 2 3
Castle Rock	145.450	144.850	K6FB	Inter-County Net
Monterey Co.	146.970	146.370	K6LY	Primary Net
Fremont Peak	145.470	144.870	K6JE	San Benito/Monterey Counties
Santa Cruz Co.	146.835	146.235	W6FKD	ARES Portable Repeater #1
Santa Cruz Co.				ARES Portable Repeater #2

Notes: * If the repeater fails, go to Simplex operation on the Repeater Output frequency.

K6BJ & KI6EH are normally linked. May be separated for localized operations.

2 These repeaters may be linked during any emergency operation.

3 PL 100 Hz

SIMPLEX FREQUENCIES

146.520# 146.565 147.420 147.465 147.510
146.535 146.580 147.535 147.480 147.540
146.550 146.595 147.450 147.495 147.570
National Simplex Frequency

MUTUAL AID FREQUENCIES

147.735 mHz	WA6WVH	State EOC Region II, Pleasant Hill
7,240 kHz	Daytime	State EOC Region II, Pleasant Hill
3,997 kHz	Nightime	State EOC Region II, Pleasant Hill
3,952 kHz		Western Public Service Net
7,255 kHz		WESTCARS
147.695 mHz Simplex		National Alerting Frequency
146.520 mHz Simplex		National Calling Frequency

PACKET OPERATIONS

Bulletin Board Systems

144.990 mHz KB6DUI Boulder Creek
144.990 mHz N6MPW-7 Ben Lomand
145.070 mHz KI6EH Santa Cruz - County Comm/ARES
145.090 mHz KB6IRS Soquel (WestNet Gateway)
145.090 mHz N6IYA-2 Felton (WestNet Gateway)

NATIONAL DISASTER INFORMATION

When emergency conditions exist in another part of the country, or the world, you will be able to receive current information by listening to regularly scheduled broadcasts from W1AW, the ARRL Headquarters station in Newington, Connecticut.

MODE	TIME	FREQUENCY
Voice/SSB	On the hour	3990, 7290, 14290, 21390, 28590 kHz +
Teleprinter 45.45 bps Baudot 110 cps ASCII 100 bps AMTOR	15 mins past hour	3625, 7095, 14095, 21095, 28095 kHz +
CW (18 wpm)	On the half hour	3580, 7080, 14070, 21080, 28080 kHz +

Section II

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The Santa Cruz ARES

POSITION DESCRIPTIONS

The Santa Cruz ARES is the local group under a national plan for organizing amateur radio efforts in providing public service communications, during times of disaster. The following SCARES leadership positions have been established.

EMERGENCY COORDINATOR
The Emergency Coordinator (EC) has been appointed by the ARRL, as the manager primarily responsible for his specific jurisdiction. The EC is generally responsible for promoting the Amateur Radio Emergency Service (ARES) for the benefit of the public as a voluntary non-commercial communications service through

Resource planning

Recruiting and training of volunteers

Establishing and maintaining liaison with served agencies

Administration of ongoing programs

Overall operational control during declared disaster situations.

ASSISTANT EMERGENCY COORDINATORS (AECs)
The Emergency Coordinator appoints assistants who are responsible for managing specific activities necessary to establish and develop a viable ARES unit. When the ARES unit is activated, during a disaster, those management responsibilities must change to reflect the requirements of an operational organization. Even though individual AEC responsibilities are assigned, the goal is to also prepare each member of the ARES unit to work in one or more of these areas. In a major disaster operation several managers will be required for each operational activity. These roles can best be played by people who have advance preparation for the job, and have local knowledge.

AEC FOR ADMINISTRATION

Responsible for assisting the EC in day to day activities of the ARES unit.

Develops procedural manuals, operational support documentation, and other resources to support ARES activities.

Organizes regular unit meetings on-the-air and in conference room settings.

Serves as the alternate to the EC when he is unable to attend meetings with served agencies or other ARES groups.

DISASTER DUTIES...When the ARES unit is activated, serves as alternate to the Emergency Coordinator. Assumes overall management responsibility in the absence of the EC.

Shares with the EC responsibility for operations during any declared disaster situation. Normally either he or the EC shall be available at all times during an operation.

AEC FOR TRAINING
Responsible for developing and administering training for the members of the ARES unit.

Provides classroom training sessions during regular meetings of ARES.

Conducts on-the-air training during regular ARES net sessions, and with special operational exercises.

Develops training materials, reference manuals, and other operational aids. Coordinates the use of materials obtained from other sources.

DISASTER DUTIES...Becomes the co-manager for personnel. Works with the AEC for Human Resources.

AEC FOR SERVED AGENCY LIAISON
Responsible for establishing and maintaining liaison with the Santa Cruz County and local governmental agencies, medical, and disaster relief organizations.

Advises served agencies on ARES resources and capabilities.

Determines the needs of the agencies and makes recommendations on how best to satisfy those requirements.

Keeps the ARES membership informed of all changes in emergency relationships with served agencies.

Coordinates meetings between served agencies and ARES staff.

DISASTER DUTIES...When the ARES unit is activated, serves as second alternate to the Emergency Coordinator. Assumes special assignments as determined by the EC.

AEC FOR HUMAN RESOURCES (MEMBERSHIP)

Directly responsible for recruiting and registering members of the ARES unit.

Promotes the ARES unit by identifying and qualifying prospective members.

Maintains all personnel records.

Processes and distributes ID cards.

Assembles and maintains records of member technical qualifications and equipment availability.

Establishes and maintains personnel resource records utilizing area radio club rosters, lists of past volunteers, and other sources.

DISASTER DUTIES...Becomes the personnel manager for the event. Has the primary responsibility for recruiting volunteers and making duty assignments to fulfill the requirements of the served agencies. Coordinates these efforts with other ARES groups in the county, as well as those in other areas. Keeps complete records of all volunteers and assignments, necessary to meet the disaster worker registration requirements of the county and of the American Red Cross.

AEC FOR EQUIPMENT RESOURCES
Is responsible for determining what equipment resources are available to the ARES unit, at any time. Assures the continuing availability of those resources required for successful ARES operations.

Maintains records of all systems and equipment which may become operational resources for the ARES unit.

Assures the continued maintenance of all systems and equipment which may become operational resources for the ARES unit.

Determines additional equipment requirements and makes recommendations to the EC.

Through liaison with other ARES groups, is informed on adjacent area resources.

Negotiates agreements for the use of resources not under the control of the ARES unit.

Provides equipment, and other technical, recommendations to ARES members.

Responsible for the readiness of the ARES/RACES Center and the communications van equipment.

DISASTER DUTIES... Shall be responsible for assuring the availability of replacement equipment for participating locations. Shall coordinate the emergency maintenance activities necessary to assure uniterrupted operations. Determines the equipment requirements for temporary locations. Acquires and arranges for the installation of such equipment.

AEC FOR (COUNTY COMM) OPERATIONS

Responsible for the operational readiness of the ARES/RACES facility at the County Office of Emergency Services.

Identifies and qualifies an adequate staff of operators for the facility. Since this will normally be the Net Control Station (NCS), it must be staffed by the most qualified operators available.

Assures the availability of current operational reference data, and other operating aids.

Assures the continuing readiness of all equipment and personnel.

Determines new equipment requirements and makes recommendations to the EC.

DISASTER DUTIES...Becomes the manager directly responsible for the staffing and operation of the County Comm station. Develops contingency plans for maintaining extended-period operations. With each Duty NCS operator, he is responsible for maintaining the integrity of the net.

AEC for COMMUNICATIONS VAN OPERATIONS

Working closely with the AEC for County Communications Operations has the direct responsibility for the readiness and operation of the county owned communications van.

Recruits and trains operators who will be available to accompany the van to assigned locations during declared disasters.

Works with the AEC for Equipment Resources to assure the continued maintenance of all communications equipment installed in the vehicle.

AEC FOR PACKET OPERATIONS

Responsible for developing a viable Packet Radio resource to serve the community. Develops ongoing liaison with other county ARES groups, and with those in surrounding counties.

Determines existing resources and maintains records of the availability to serve during any operation.

Establishes and maintains liaison with the National Traffic System. Assures a functioning relationship, at all times, for efficient handling of Health and Welfare communications---to and from the local area. Develop resources and plans providing for Packet facilities to serve both Tactical requirements and Health and Welfare.

AEC FOR PUBLIC INFORMATION

Responsible for publicizing activities of the ARES unit, both within the amateur radio community and to the public at large.

Reports on activities of the ARES unit through the newsletter of the Santa Cruz County Amateur Radio Club.

Prepares and disseminates Press Releases to Amateur Radio publications and to the local new media, as appropriate.

Seeks and promotes media exposure for ARES activities and amateur radio in general.

Develops visual aids and speaking aids for the presentation of programs before area service groups and other organizations.

Encourages informational contributions from other members of the local amateur radio community.

Coordinates publicity efforts with other ARES units in the area and with the ARRL Section.

DISASTER DUTIES...Shall acquire and record information regarding amateur radio participation in the current event. Immediate goal shall be to gather and disseminate ongoing reports of the contributions being made by the amateur radio group. These efforts should be coordinated with the county PIO. The AEC for Public Information shall be the historian of the event, compiling and maintaining photographic and written records of the operations. This material is to be available for publicity, and also for post-operational review and future training activities.

Responding To An Emergency

WHAT TO DO FIRST

In the event of an earthquake, forest fire, flood, or other disaster, your first responsibility will be to attend to the safety and well being of your family and neighbors. Refer to the "Personal and Home Preparedness" guidlines in Appendix B for some ways to plan ahead. Next, you will probably want to get an assessment of the situation. You will also want to determine where you may be of assistance. The best way to accomplish this is by LISTENING. Listen to both local broadcast stations and the ARES emergency net frequency (146.79/147.945 mHz). Note that operation on the net frequency will be in a simplex mode if the repeater is out of service. If the net control station (NCS) is busy handling traffic don't interrupt, just to inquire about the situation or to volunteer your services. Further instructions will be provided by the NCS, including information regarding Resource Net operations.

PLAN FOR FAMILY COMMUNICATION

Serious concerns will arise when families are separated at home, school and work. Advance planning for dealing with this situation is a must. Develop plans for family rendezvous points and communication. Remember that this may not be possible for hours, or perhaps even days, after the event. Well rehearsed contingency plans will reduce panic. One very effective practice is to establish a friend or relative well out of the area as the check-in location for all members of the family. For example, each would call Uncle John in Phoenix to report wellbeing and whereabouts. Everyone should carry a note with the telephone number, at all times. Make certain small children know how to make a long distance telephone call, even if they don't have money.

PLAN FOR EMERGENCIES

Your advance preparation must include the availability of radio and personal gear appropriate to emergency operations. Use the preparedness lists in this manual as a guidline. You will be able to perform the best job if you are adequately prepared before reporting to a duty site. You also have an on-going individual responsibility to develop your emergency communication skills. In any large scale emergency there will be many participating amateurs who will not have the benefit of such advance preparation. The direction of a disciplined net operation will be set and maintained by the active, experienced ARES members. When the need arises, any and all volunteers may be required, regardless of qualifications. There will be little time available to train new recruits. A smoothly functioning ARES group can more readily make use of the less experienced volunteers.

ARES Mobilization

TELEPHONE/RADIO CALL-UP

Once the decision has been made by the Emergency Coordinator to activate the ARES group, the Assistance ECs will be contacted immmediately. It will then
become the responsibility of the AECs to alert individual ARES members and to mobilize all appropriate resources.

TELEPHONE ALERTING

Calls by the EC to the AECs will place the "phone tree", or emergency alerting system, into operation. Each AEC, or designated alternate, will be responsible for alerting a group of members. This multiple calling process assures that the greatest number of people will be contacted in the shortest period of time.

ARES emergency activation will be accomplished via telephone, if the system is still operational. If telephone services are impaired, the emergency radio network will be utilized. This means that it is very important that every member begin monitoring the assigned channel as soon as they become aware of an emergency situation. If a Resource Net has been activated, the Resource NCS should be informed of your availability and capabilites. In the

early minutes following a disaster both tactical and resource operations may be taking place on the same frequencies.

When the availability of personnel has been determined, this information will be provided to the Resource Net Control Station. As detailed requirements become know the decision will be made as to whether further contacts must be made to recruit additional personnel. The Resource NCS operator will coordinate the assignment of personnel, in cooperation with the EC and DEC. The EC and DEC will decide when other ARES groups should be contacted for assistance.

Refer to the "Quick Reference Guide for Tactical Station Operators", Appendix A of this manual, for a concise review of emergency procedures. The most basic procedures and criteria for action by an ARES member are covered in this guide. Additional copies of this guide are available, or you may wish to copy it directly from this manual.

Emergency Responder Guidelines

There are some basic rules for responding on an emergency net following an event such as an earthquake.

1. If you are using a repeater, when the event occurs, immediately stop transmitting. Make it a habit to pause occasionally to LISTEN whenever you are using a repeater.

2. Listen carefully to the Net Control Station. Respond only if requested.

3. When responding to a request for situation reports, keep it brief but informative. Report in even if you have experienced no damage or injuries at your location. This is a case where "no news" may not be good news. The initial assessment of damage and casualties by authorities requires as much good information as possible

4. Your report should include your precise location. Don't assume everyone knows where you are, event if it is your home QTH.

5. Don't make request for information on the event, unless you are the Net Control Station. The NCS will provide a summary report as soon as possible. Keep informed by listening to what other stations are reporting.

ARES Net Activation Procedures

A request for ARES assistance will originate from the Santa Cruz County Office of Emergency Services. That request will go to the EC, or in his absence the first AEC to answer the call. The person receiving the request should record the name of the individual, title, telephone number and name of the agency requesting assistance. Also log the time and essential information regarding the incident, such as location, situation details, and locations to be manned by ARES members Determine if there are any special instructions regarding routes and access to the affected area. Be certain you are absolutely clear on all information.

You may, at least for the moment, find yourself acting as the NCS. You should go on the K6BJ or KI6EH repeater and broadcast the following alert:

"***ALERT ALERT ALERT. THIS IS A (FIRE/MEDICAL/GENERAL) ALERT. THIS (IS/IS NOT) A DRILL***."

If you are unsure about assuming net control, say:

"***IS THERE A NET CONTROL OPERATOR ON FREQUENCY?"***

If a regular control operator responds, give them all the pertinent information regarding the situation.

Continue the bulletin:

"***ALL STATIONS COPY. THIS IS A (FIRE/MEDICAL/GENERAL) ACTIVATION OF THE SANTA CRUZ***

COUNTY ARES NET. STATIONS AVAILABLE FOR ASSIGNMENT PLEASE CHECK IN WHEN REQUESTED."

Provide details of the incident.

Initially the station will be acting as both Tactical and Resource Net Control. As soon as possible, other stations should be instructed to repeat the information bulletin on other area repeaters. This will serve to alert others to the possibility of a need for their services. More importantly, this will help to keep the primary emergency clear of informational request from the merely curious.

After the initial alert, the Tactical Net will become operational. Dispatching operators to assignments will first be handled there. Emergency situations involving ARES will almost certainly involve the Red Cross and all the area hospitals. County Communications along with these locations will be the first to become operational. Specific pre-designated and trained individuals will initially man these locations. Admission to the Emergency Operations Center will not be possible without a proper ID Card.
Resource Net

The Resource net is implemented when operational (Tactical) communications activity would be impaired by traffic relating to the ARES personnel staffing and other administrative activity. Assignment and coordination of amateur communication personnel and equipment are handled on the Resource Net. Individual operators should not request situation or incident update information from either the Tactical NCS or the Resource NCS.

The Resource Net Control will provide scheduled situation/incident updates, as frequently as practical. This will normally occur via regularly scheduled broadcasts. The Resource NCS will periodically announce the scheduled times for these broadcasts. Situation update summaries are broadcast to appraise monitoring amateurs of the status of the emergency, and to solicit volunteers.

The EC, PIO, or other supervising person will normally prepare the summary. Only official FACTS will be broadcast; i.e., no personal commentary! Remember the media and general public are probably monitoring. The "official" summary will be rebroadcast until an authorized update is provided to the Resource NCS.

The Resource NCS will broadcast the summary report, with updates, on the hour and half hour. Urgent updates will be broadcast as appropriate.

The following is an example of such an information broadcast.

QST...QST...ATTENTION ALL STATIONS. THIS IS , RESOURCE NET CONTROL STATION. DUE TO THE CURRENT (FIRE, FLOOD, EARTHQUAKE, ETC.) SITUATION, THE SANTA CRUZ AMATEUR RADIO EMERGENCY SERVICE IS INVOLVED IN EMERGENCY COMMUNICATIONS FOR THE COUNTY OES, RED CROSS, FORESTRY DIVISION, ETC.)....PLEASE STAND BY FOR AN UPDATE ON THE SITUATION.

(Broadcast summary of situation received from EC)

SITUATION UPDATE SUMMARIES ARE BROADCAST EVERY 30 MINUTES. THE NEXT UPDATE WILL BE AT LOCAL TIME.

COMMUNICATORS ARE NEEDED AT THE FOLLOWING LOCATIONS (Locations, shift times, etc.)> IF YOU ARE AVAILABLE, PLEASE CALL THIS STATION. THIS IS RESOURCE NET CONTROL STANDING BY FOR CHECK-INS.

Net Operations

Some basic principles apply to all nets. These are absolutely essential during emergency operations. Without net discipline chaos would result. The Net Control Station (NCS) is responsible for proper operations, whether a real

emergency exists or if the operation in for training purposes only.

Normally, all stations communicate only with Net Control. That is, they never talk to another station without prior permission from the NCS operator. They must follow the direction of the Net Control Station at all times.

Although a single experienced operator can handle a busy and complicated net under normal circumstances, more than one operator may be required at a site during disaster operations. The second operator may assist in copying messages and in keeping track of all the participating stations. Formal traffic will be recorded and logged. Failure to keep accurate records creates many operational problems.

BASIC RULES FOR NET OPERATIONS

MONITOR Monitor all communications as closely as possible. This will minimize interference with traffic ex1changes, and you will not miss essential informtion regarding the general situation.

BE READY Be alert and ready to respond to the NCS for assignments and information requests.

USE TACTICAL CALLS Tactical calls are usually a simple description of the location or assignment. For example; Shelter 1, Red Cross, County Comm, Salvation Army, Felton Fire, Scotts Valley EOC. Tactical calls are used for accuracy and efficiency. Your personal call sign is not used, because it is virtually impossible for all stations to know at all times which individual operator(s) is assigned at a particular location. Often message handling is facilitated because agency personnel hear their received messages directly. You are assigned to a site as a part of the net, not as an individual. FCC rules must be satisfied, of course, by giving your call at the conclusion of an exchange of transmissions.

HANDLING TRAFFIC Traffic is passed to other stations only when cleared the NCS. To contact NCS it is necessary only to transmit your Tactical Call and the word "traffic". If you have traffic for another location, indicate that in the initial call. For example; "County Comm from Boulder Creek Fire, traffic for Red Cross. If the operator at Red Cross is alert, they will be ready for your traffic.

PRIORITY TRAFFIC When you have priority traffic to pass, indicate this in the initial call to NCS. For example; "County Comm from Watsonville EOC, priority traffic for Red Cross".

ACKNOWLEDGE Acknowledge all calls to your station promptly. This applies even if you must tell the calling station to stand-by. Don't forget to get back to the station you have told to stand-by.

LISTEN Don't disrupt other stations. Listen before transmitting. This is, of course, common sense at any time.

KEEP IT BRIEF This is not the time for rage-chewing. Make all of your transmissions short and to the point.

THINK Think before you begin talking. The button on the microphone is a Push to Talk switch, not a Push to Think switch.

SLOW-BUT-SURE Efficiency is the watchword, but that doesn't mean talking fast. Transmissions must be made at a speed which allows receiving stations to write down the message. This is one of the most common mistakes made by net operators. When you are copying messages don't be afraid to tall the other station to slow down. Unecessary repeats are a certain sign of poor operations.

AVOID BUZZ WORDS Use simple easily understood language. "Q" signals are not appropriate for voice net operations. They are in effect slang, and easily misunderstood. Remember that personnel from the served agencies should be able to understand any message, when they are listening.

PROWORDS Use procedural words to help speed communications between stations. They express a complex idea in a single word. They must be used correctly, of course.

OVER Indicates the end of a transmission and is an invitation for the receiving station to respond. It is not necessary to use this word in VHF repeater operations. The courtesy tone and/or the squelch tail serves the purpose quite well.

OUT Indicates the end of a series of transmissions. No reply is required.

ROGER Means a message has been received and understood in entirety. It does not mean "yes". "QSL" is not appropriate as a substitute.

AFFIRMATIVE Is much less likely to be misunderstood than "yes".

NEGATIVE Is less likely to be misunderstood than "no".

CHECK- -OUT AND REENTRY If you must leave the net at any time, always inform the NCS. Only the NCS may authorize the closing of a station, even for a brief time. When you are back on the air, notify the NCS promptly. Example; "County Comm from Felton Fire --- be off the air for 5 minutes." "County Comm from Felton Fire --- back in service."

TACTICAL NET OPERATIONS

A Tactical Net is established to handle message traffic between served agency operational locations. This would include Red Cross, CDF, County Comm, a disaster site, and so forth.

RESOURCE NET OPERATIONS

A Resource Net is estalished to handle traffic concerning the logistics of the amateur operations. This removes that traffic load from the primary net(s) handling the traffic concerning the event itself. For example, the Resource Net is where volunteers are recruited and assigned to duty locations. It is also where communications regarding equipment is handled. The Resource Net also disseminates situation status updates to the amateur operators in the area.

CHECKING INTO THE RESOURCE NET

Volunteers should always check in with the Resource Net for assignments. The Resource NCS will have up-to-date information concerning the manpower and equipment requirements for the operation. When volunteering for an assignment, the Resource NCS will give you information regarding length of assignment, personal equipment requirements and anything else you should know before reporting to a site. If you are not told, be certain to ask--- you may be in real trouble if you report to a site with the wrong radio equipment, or inapropiate personal apparel.

National Traffic System (NTS)

MESSAGE HANDLING

One of the primary purposes of the National Traffic System is to handle Health and Welfare traffic in times of emergency. A system of traffic nets is in daily operation throughout the United States and Canada, as well as in a few other countries where law or treaty permits. One of the reasons for the daily operation is to assure the readiness of a cadre of experienced operators.

Uniform procedures must be followed to ensure efficient traffic handling throughout the system. It is essential that all messages originated within the local ARES operations conform with those procedures---whether messages enter the system via Packet Radio or directly into the NTS. Every ARES member
should be familiar with the NTS approved message format. NTS procedures, including message composition, are covered in the following publications.

The ARRL Handbook
The ARRL Operating Manual
Public Service Communications Manual (ARRL)

The following are examples of messages composed for transmission via the NTS.

Basically the message format includes four elements; Preamble, Address, Text, and signature. Normally practice is to include a break (BT) between the elements.

PREAMBLE FORMAT

The preamble contains the Message number, Precendence, Originating Station Callsign, Word Count, Location of Originator, and Time and Date of Origin.

EXAMPLES

NR 100 W W6XYZ 6 SANTA CRUZ CA 1300Z FEB 20 BT
NR 12 W N6ZYX 8 WATSONVILLE CA 0845Z JAN 13 BT
NR 225 W K6XXX 7 BOULDER CREEK CA 2230Z MAR 2 BT

ADDRESSEE

Give a complete address, including telephone number.

EXAMPLES

JOHN W. JONES
1234 WEST 59TH STREET
CHICAGO IL 60625 312-444-1234
BT

BETTY SMITH
2989 WILLOW LANE
PETALUMA CA 94952 707-123-9999
BT

TEXT

The text must be brief. Carefully edit the contents for both accuracy and brevity. It may be desirable to use the standard ARRL messages when handling welfare traffic. These standard coded abbreviations take the place of more lengthy messages---they use only one or two words. The following are appropriate for disaster related health and welfare traffic.

ONE Everyone safe here. Please don't worry.

TWO Coming home as soon as possible.

THREE Am in hospital. Receiving excellent care and recovering fine.

FOUR Only slight property damage here. Do not be concerned about disaster reports.

SIX Will contact you as soon as possible.

TWELVE Anxious to hear from you. No word in some time. Please contact me as soon as possible.

THIRTEEN Medical emergency situation exists here.

FOURTEEN Situation here becoming critical. Losses and damage from increasing.

FIFTEEN Please advise your condition and what help is needed.

SIXTEEN Property damage very severe in this area.

EIGHTEEN Please contact me as soon as possible at .

NINETEEN Request health and welfare report on . (State name, address, and telephone number.)

EXAMPLE OF USE

BT
ARL ONE. ARL SIX
BT

Please note that the numbers are always spelled out. There are many more ARRL numbered radiograms, for both routine and emergency messages.

SIGNATURE

Always include a complete signature with full name, address and telephone number followed by the final AR (end of message prosign).

EXAMPLE

Uncle
John Smith
54321 29th Avenue
Villa Park CA 92667 714-123-4567
AR

SENDING WELFARE MESSAGES VIA PACKET

All ARES members should be skilled in handling formal written traffic in as many modes as possible. This ability will be particularly valuable during disasters. Packet radio is fast becoming the primary means of handling Health and Welfare traffic during emergency operations. The entire message composed in the format shown above becomes the text of the packet message. The following instructions assume a knowledge of basic packet operating procedures.

USE THE ST COMMAND TO SEND TRAFFIC

After connecting with the packet BBS station and receiving the normal mailbox prompt you must inform the BBS of what you wish to do. Simply type "ST" (to send NTS traffic) instead of the normal "SP" (to send a personal message) or "SB" to send a bulletin. Follow the "ST" with a space followed by the 5 digit destination ZIP code (ST XXXXX) a space and "@NTSXX". The "XX" is the official two letter postal abbreviation for the destination state or province. If the message is destined within California, omit the "@" field entirely. If a full zipcode is unavailable, use the first 3 digits for the city followed by "XX". If no zipcode at all is available, send it to "ST NTSXX @ NTSXX". This will create a delay, but the message should eventually get through. You must always use the standard format described here.

"ST ZIPCODE @ NTSXX"

EXAMPLES	COMMENTS
ST 60625 @ NTSIL	Traffic to Chicago, Illinois
ST 94568	Traffic within California
ST 96823 @ NTSHI	Traffic for Hawaii
ST 841XX @ NTSUT	Traffic for Utah - full ZIP unknown
ST NTSCO @ NTSCO	Traffic for Colorado - ZIP unknown
ST NTSPQ @ NTSPQ	Traffic for Province of Quebec, Canada
ST NTSPR @ NTSPR	Traffic for Puerto Rico

THE SUBJECT

When the BBS prompts for the Title, type "QTC 1, destination city, and telephone area code plus the first three digits of the number, if known.

EXAMPLE

QTC 1 Chicago IL 606-237
QTC 1 Aurora CO 303-366

THE TEXT

The full NTS radiogram is entered as the text of the packet message. This must include all the required message components, in the correct order. Only one radiogram may be included in each packet message. Remember that the end of a message must always be indicated to the BBS by entering ^Z (CTRL Z) or /ex on a separate line.

EXAMPLE

ST 80011 @ NTSCO
QTC 1 AURORA CO 303-543
NR 2 W N6ZZZ 2 APTOS CA 0235 MAR 3
MR AND MRS DONALD JONES
12333 EASY STREET APT 25
AURORA CO 80011 303-543-2111 BT
ARL ONE ARL FOUR BT
BILLY KIDD

9999 RAINBOW AVENUE
SANTA CRUZ CA 95061 408-555-1234 AR <RTN>
^Z (CTRL Z) OR /EX <RTN>

Responding to Everyday Emergencies

911 PROCEDURES

The 9-1-1 (nine one one) system exists to provide rapid communication between the public and police, fire, and other emergency services in the community. You should be familiar with the system and the services provided. 911 service is now provided throughout California. The service is also provided in at least the population centers of all other states. Wherever you go, this system follows the same basic procedures.

With auto-patch available on the K6BJ and KI6EH repeaters, you have access to 9-1-1 from your vehicle or handheld radio, throughout the coverage area. If you are in other repeater areas, you may also find occassion to report emergency situations. The call you make could save a life, or prevent a crime.

The first rule to remember when reporting any emergency, via radio or telephone, is to STAY COOL. The more familiar you are with proper procedures the easier it will be to keep your head in a stressful situation. You may well be the only person who can provide fast communication with the needed emergency services. These are the times which call for a "PROFESSIONAL" performance by a RADIO AMATEUR.

REPORTING EMERGENCIES VIA AUTO-PATCH

If the repeater is occupied wait for termination of the current transmission, then come on promptly with the words "BREAK BREAK FOR EMERGENCY PHONE-PATCH". Normally one of the parties will indicate they are standing by for you. If you don't have phone-patch capability, ask for a station who can access 911 for you. It is best that you talk directly with the emergency service operator, rather than relaying through a third person.

Give your CALL followed by the words "EMERGENCY PHONE-PATCH".

Dial 911, as you would dial any other number. The Santa Cruz and Watsonville repeaters provide a speed-dialing function to make this simpler.

If for any reason you are unable to get through via the phone-patch seek assistance from a base station with telephone access. Ask them to call 911 and relay the information.

Don't talk until the emergency operator answers. When the operator responds, identify yourself as a radio amateur calling from your portable or car radio. Pause for a few seconds. If the operator seems unfamiliar with such calls, advise them that only one of you can talk at a time---most operators will be aware of this constraint. Briefly describe the situation (including any known injuries) as well as the precise location. You will be connected with the appropriate agency, based upon that information. Follow this procedure, even though you may be certain which agency will handle the incident.

When you are connected to the Highway Patrol, Sheriff, local police, or fire department, identify yourself again and briefly and calmly describe the situation, location, and other pertinent data.

Give the PRECISE LOCATION: For example: 1 block west of Main Street on Highway 199. Northbound Highway 17 1/2 mile north of Summit Road. Give the location first, in case communications should be disrupted.

Give ESSENTIAL DETAILS. Don't tell the operator how to handle the situation. These people are trained to provide the correct response---and they have the necessary knowledge of available resources.

If asked for ADDITIONAL INFORMATION (eg., more description, your name, telephone number, etc.) provide it to the best of your ability---even if you don't understand the necessity for it. It may be required to determine the

optimum response, or even to provide assurance the call is "genuine".

An operator unfamiliar with amateur repeaters may think you are calling from a CB unit or a commercial mobile 'phone. Explain that you are calling via an amateur radio repeater, give your callsign and a telephone number where you may be reached later. The 911 operator can "lock-up" an incoming call, and trace it to the originating number. Since this number would be the telephone line to the repeater, it might well be in an area far from your reporting location. This could cause confusion, and perhaps delay in responding to the emergency.

Always use GOOD JUDGEMENT when making these calls. Keep COOL, speak CLEARLY, provide ACCURATE INFORMATION, and be COURTEOUS.

PROVIDING DESCRIPTIONS

LOCATION OF INCIDENT (Be as precise as possible)
- Street Name or Route Number
- House or Block Number
- Cross Streets, Intersections, Mile Markers, Landmarks
- Side of Road (ie. Northjbound, Westbound, Going from - to)

VEHICLES (CYMBAL)
- Color (If two-tone say color over color)
- Year (1986 or '86 Ford)
- Make (Ford, Datsun, BMW, etc.)
- Body (Style - 2 door, Sedan, Convertible, Pickup truck, Van, Etc.)
- And
- License (State and Number. Colors, if state unknown)

- Additional information:
  - Noticeable damage
  - Direction of travel
  - Occupants (refer to number of PERSONS and description)

PERSONS (In this order. Omit unknown items)
- Race (White, Hispanic, Black, Indian, etc.)
- Sex (male or female)
- Age }
- Height} (Approximate as closely as possible)
- Weight}
- Hair (Brown, Black, Grey, Blonde, etc.)
- Eyes (Blue, Brown, Green, etc.)
- Complexion (Dark, Ruddy, Light, etc.)
- Physical (Injuries, Marks, Tattoos, Scars, etc.)

- Clothing
  - Hat Shirt/Tie Coat Trousers (Dress) Shoes

REPORTING MARITIME EMERGENCIES

Considering the amount of boating activity in our area, you may sometime be in a position to help in relaying calls to the Coast Guard. These emergencies are also reported via 9-1-1.

When you are connected with the Coast Guard, you should be prepared to provide the information they require before taking action.

Identify yourself by your Call Sign (and name, if requested).

Provide your telephone number, if you are at a fixed location.
Report the position of the vessel(s) involved.
Number of persons aboard.
Nature of distress.
Is there immediate danger (yes or no)?
Name of vessel in distress.
Registration or Document Number (CF number).
Call Sign and Frequency of distressed vessel.
Length and type of vessel (sail, power, fishing, etc.)
Hull and trim colors.
Descriptive features (number of masts, Radome, etc.).
Home Port
Weather conditions at Scene of Incident.
Emergency gear aboard (life raft, life jackets, etc.).

The underlined information is the minimum required by the Coast Guard. Obtain as much information as possible prior to making the call. This will save valuable time.

HAZARDOUS MATERIALS EMERGENCIES

Whether you find yourself at the scene of an accident involving hazardous materials, or you are part of an ARES operation during such an incident, there are some important things to remember. During such events people are frequently injured due to lack of knowledge or respect for what is involved.

The U.S. Department of Transportation defines hazardous materials. They range from explosives and radioactives to poisons, flammable compressed gasses, corrosives, and combustionables. These materials are routinely transported over the highways, as well as by rail and air.

If you are the first person on the scene, call 9-1-1 and WAIT for competent personnel (police, fire, or others) to arrive and identify the materials involved.

Stay upwind at least a quarter of a mile away.

Consider any unknown materials to be hazardous until declared otherwise by a competent person. Be PATIENT---don't become a patient.

Fumes can damage radio equipment. Wrap it in plastic.

Flammable vapors could be ignited by operation of your equipment.

GLOSSARY OF TERMS

The following are some commonly used terms.

AEC Assistant Emergency Coordinator. Working under the Emergency Coordinator, AEC's are responsible for specific areas of emergency communication preparedness and operations.

Amateur Radio Operator A person holding a license issued by the Federal Communications Commission. Dependent upon class of license issued, may use specific Amateur Radio frequency bands for non-commercial purposes.

APCO Associated Public Safety Communication Officers, Inc. A professional association.

ARC American Red Cross

ARES Amateur Radio Emergency Service. The emergency communications organization sponsored by the ARRL. Dedicated to providing public service communications on a voluntary basis, in times of disaster.

ARRL American Radio Relay League. The national organization for Hams.

ATV Amateur Television. FCC rules permit television operation in particular frequency bands. Lightweight portable equipment is popular.

Autopatch Equipment which allows an Amateur Radio station to communicate via the telephone system. Connects transmitter and receiver of a fixed station to a telephone line and provides the necessary controls for both the telephone system and the radio equipment. Often used for reporting emergency situations to 9-1-1.

Base Station An Amateur Radio station installed at a fixed location.

Breaker Anyone who interrupts a conversation between two other stations. Normally involves priority or emergency communication.

CDF California Department of Forestry and Fire Protection

Channel The transmit and receive frequencies which are used together.

CHP California Highway Patrol

Coverage The area over which a radio station can conduct two-way communication.

DEC District Emergency Coordinator. Coordinates and supervises the emergency communication groups within an ARRL District (for example Santa Cruz County).

Desense or desensitization. An interfering signal causes a radio receiver to become less capable of receiving weaker signals.

Distress Calls Normally applies to requests for emergency assistance from ships or aircraft.

DTMF Dual Tone Multiple Frequency. The tone signaling system commonly known as Touch Tone. Each button on the pad will cause two tone frequencies to be simultaneously generated. A 16-button pad utilizes 8 tones.

EC Emergency Coordinator. Appointed to administer and coordinate local emergency communication preparedness

and operations.

FEMA Federal Emergency Management Agency

Ham Commonly used term meaning Amateur Radio operator.

Handheld Small portable transceiver capable of being hand held. Is often the only VHF or UHF radio owned by Hams.

Health and Welfare Traffic Messages relating to the Health and Welfare of private citizens.

Input In a Repeater station refers to the receiver frequency.

Intermod or intermodulation. The combining of two or more radio signals to produce other frequencies. Commonly the sum or difference of those frequencies, or multiples of them.

Machine Slang. Refers to the equipment of an amateur repeater station.

NCS Net Control Station. Directs and coordinates all stations participating in any net operation, emergency or routine.

NTS National Traffic System. The ARRL sponsored network which is organized to handle Health and Welfare communications during emergency situations. Normally handles message movement over large distances.

NiCad or Nickel Cadmium The type of rechargeable battery most often used with portable radio equipment.

OES Office of Emergency Services That organization at the state, county, or local government level charged with responsibility for planning, preparation, and disaster operations.

Offset The difference between the transmit and receive frequencies of a repeater station. Most commonly +/- 600 Hz.

Omnidirectional Refers to a non-directional antenna radiation pattern.

Output The transmit frequency of a repeater station.

Packet Radio A digital communications system using computer terminals transmitting via Amateur Radio stations. Provides fast reliable record communications.

Picket Fencing A condition produced in an FM receiver under poor signal conditions. Particularly noticeable with moving vehicles. Signal strength drops and noise level increases at regular intervals. Like dragging a stick along a picket fence. May cause squelch to rapidly turn on and off.

Point-to-Point Communications Communication between fixed locations.

Polarization Refers to the orientation of radiation from an antenna. Vertical polarization is normally used in base (repeater) to mobile communications. Horizontally polarized antennas would be undesirable for repeaters, since only vertical antennas are practical on a vehicle.

Public Safety Agency Governmental agencies charged with protecting lives and property. For example Police, Fire and Highway Patrol.

Public Service Non-profit. For the benefit of the general population.

Quieting The effect of a signal upon an FM receiver. The strength of the signal is defined by how much the audible noise level is reduced.

RACES Radio Amateur Civil Emergency Service. An FCC established service, managed by state and local governments to provide disaster management or civil defense communications. In Santa Cruz County ARES members are also enrolled in the RACES.

Relay Station A station which serves as an intermediate recieving and transmitting location. Passes messages between stations which can not communicate directly.

Repeater A station which receives transmissions from a mobile, portable, or fixed station and re-broadcasts them, for extended range. Usually located in a relatively high location.

Resource Net The network operations involving the coordination of personnel and equipment for an Amateur Radio Emergency Service activity.

SEC Section Emergency Coordinator. Coordinates emergency activities within an ARRL Section. Works with local ARES groups through the DEC.

Served Agency Any governmental agency or relief organization with which local ARES groups have a working relationship.

SET Simulated Emergency Test. A drill.

Simplex Operation Refers to radio operations where both transmitter and receiver operate on a common frequency.

SKYWARN A system which becomes operational during specific emergency weather conditions such as hurricanes, tornados, floods and blizzards. Provides weather information to the National Weather Service and disseminates NWS advisories to local authorites.

Squelch Tail The noise heard in a receiver as the received signal disappears.

Tactical Net A radio net organized for the purpose of handling the operational communications associated with an emergency situation.

Third Party Traffic Messages originated by, or addressed to, someone other than the originating amateur station.

2 Meters An FCC assigned Amateur Radio band covering 144-148 mHz. Most popular band for mobile and portable operation. Repeaters are operated nationwide.

911 Emergency Service A system which provides fast easy access, via telephone, for citizens in need of emergency help such as police, fire, or medical emergencies.