

part 3

AMATEUR RADIO AND THE WEATHERMAN

Bruce A. Eggers

Chelmsford, Massachusetts

Almost everyone who has ever heard or read a news story about a major catastrophe has heard about Amateur Radio. "A ham operator near the scene of the (earthquake, hurricane, tornado, plane crash, fire, etc.) has reported that" It makes no difference if the catastrophe is in Alaska, Guatemala, Italy, Guam, or San Diego; hams, or Amateur Radio operators, always seem to be there.

In some isolated cases hams have been working with weather folks over quite a number of years. Among this writer's earliest associations with Amateur Radio was the experience of operating in a network of Amateur Radio stations that relayed daily rainfall and temperature data from experimental agricultural stations in northern Florida to the National Weather Service office at Tallahassee. That was some fourteen years ago. And there are certainly many other examples that far pre-date that cooperative effort.

In more recent years, the National Weather Service (NWS) has begun to aggressively seek out the services of the hams. The NWS Southern Region Headquarters at Fort Worth, Texas, has put together a model plan for using the Amateur Radio Service as a select storm spotter and reporting system. This plan, "Amateur Radio and the National Weather Service," June 1977, was prepared in cooperation with the Disaster Preparedness Staff in Silver Spring, Maryland. It presents some good background information on the Amateur Radio Service and cites several highly beneficial associations between hams and the NWS in the arena of severe phenomena. This article is going to tell you how the Amateur Radio Service works and it will give you a lead on how to establish a liaison with the hams in your area if you think you have a problem that they can help you with.

To understand the concept of Amateur Radio and the ham's ability to perform public service communications, you really need to go back to the turn of the century and trace the historical development of "the wireless." In those pre-governmental regulation days, everybody involved in this quantum leap forward in communications was a ham. There were a number of different attempts to form a nation-wide organization of hams in those early days. The one effort that succeeded, and exists to this day, grew out of the

Hartford (Connecticut) Radio Club. That organization, the American Radio Relay League (ARRL), was organized in 1914 and incorporated in 1915. Its primary objective was to establish the capability to relay messages across the country. The ARRL has grown and thrived. It now boasts a membership of over 160,000 Amateur Radio operators in this country and Canada and serves as the headquarters society for the International Amateur Radio Union, an organization of over 100 national societies. One of the primary objectives of the ARRL is to further the cause of public service communications by Amateur Radio Service. They do their job well and with good cause.

The first paragraph of the Federal Communications Commission's Rules and Regulations governing the Amateur Radio Service states that the amateur's ability to provide public service communications, particularly with regard to emergency communications, forms the basis and purpose for the existence of the Service. The ARRL manages the day-to-day efforts of the bi-national Amateur Radio Public Service Corps (ARPSC) that fulfills this responsibility. The ARPSC is divided into two parts. There may be applications of interest to the reader from both sides of this public service house. To understand how this system works, we need to take a look at the Field Organization of the ARRL.

The United States, its possessions and territories, and Canada are divided into 74 geographical sections. ARRL members in each section elect a Section Communications Manager (SCM) every two years. The SCM appoints a Section Traffic Manager (STM) and a Section Emergency Coordinator (SEC). The STM is responsible for the operation of a number of different networks of Amateur operators that provide the communications coverage of the section. The SEC is responsible for the establishment of a section emergency communications plan that details how the Amateur community will interact with the local government and such service and emergency agencies as the Red Cross and the National Guard. Let's take a closer look at these two functions.

The STM operates in the day-to-day world of the National Traffic System (NTS). This half of the ARPSC constitutes a widespread network of volunteer operators who relay messages back and

forth across the two countries. They provide liaison with individual stations which maintain schedules with operators in a growing list of other countries which permit Amateurs to pass messages. They also provide liaison with the Military Affiliate Radio System, a volunteer communications system made up almost entirely of Amateurs but managed by the Armed Forces for back-up communications to our worldwide defense forces. The organizational effort required to manage this system above the section level is directed by the headquarters staff of the ARRL. Operations within the section, including liaison to the higher echelons of the NTS, is the responsibility of the STM.

In a typical section, on a day-to-day basis, there may be any number of local nets. These nets cover some specific portion of the section. Amateurs in a given city or county contact each other on a common frequency at a specified time. These local nets are frequently conducted through the use of Amateur installed and maintained repeater stations which provide interference-free, FM communications over an area of several thousands of square miles to any Amateur equipped with low-power portable or mobile communications equipment. At the section level there will normally be at least two different nets, active at four different times of the day, that link together the various local nets, towns, and cities. In some sections there may be as many as six or more operations occurring between early morning and late evening. These local and section nets are a resource that can be tapped. The daily relay of weather information in Florida that I mentioned at the start of this article was a routine item of business that was conducted as a part of the West Florida Phone Net each day of the year at 5:30 in the evening. Some of these nets are comprised mainly of individuals who are weather hobbyists as well as Amateur operators. They meet at a set time, frequently early in the morning, primarily to exchange weather information. This represents a potentially valuable source of finer scale weather information than is normally available. All of these nets provide the daily training and orientation required to assure a reasonably proficient capability to relay messages in time of disaster or catastrophe.

The SEC, through his local Emergency Coordinators, registers individual operators who are willing to provide communications support in times of emergencies. These operations take place, to a large extent, on the same frequencies and with the same operators as do the daily net operations. The San Antonio Repeater Organization operates a Storm-Watch program for the National Weather Service. Puerto Rico Amateurs, through the efforts of an Assistant Emergency Coordinator designated to perform liaison

with the National Weather Service Forecast Office at the San Juan airport, provide rainfall information from a number of different locations around the island. The rainfall data are used in the absence of quantitative radar data in evaluating the need for flash flood warnings.

These few examples of how Amateur Radio is providing support to the weatherman are just that, only a few examples. There are many others. As recently as the Trans-Atlantic flight of the Double Eagle II, Amateur Radio provided communications support for weather information. And while Amateurs are forbidden from directly referring to a rebroadcast of their transmissions on another service, with the Amateur's advance permission, weather, road conditions and traffic information can be made available to the general public through the facilities of commercial broadcasting stations.

There are probably almost as many ways that Amateurs can help the weatherman as there are innovative weathermen with data collection, dissemination, or other communications problems. As with all public service groups, each case is different. Each effort on the local level must be coordinated on the local level. The success of each effort will, to a large degree, depend upon the sense of urgency or significance attached to the problem, the leadership abilities of the individual Amateur who has volunteered his services to organize and manage whatever effort is required to resolve the matter, and the availability of a sufficient number of volunteers to do whatever it is that needs to be done. Of course, the greater the population density of given area, the better the chance of success. But there is always a good chance of finding a ham who is in just the right spot to fill in that data sparse area where all the fog comes from; who can provide you with the services of 67 volunteers who will spend hours on end watching for creeks to rise or funnels to drop; or who can set up a reporting system that will get you all the information that you can use on road conditions and traffic flow during the rush hours.

If you think that you have a problem that Amateur Radio operators could help you with and you don't know who to contact, contact this writer. I would be most happy to provide you with the name and address of the Section Communications Manager, Section Traffic Manager, or Section Emergency Coordinator in your area. Drop a line to:

Bruce A. Eggers
14 Judith Road
Chelmsford, Massachusetts 01824

or call me at my office, 617-861-3237 (FTS 844-3237) or home, 617-256-7861. Hams can help you. Let them.