Radio Communications: Skill, Service,

Celebrated inventor and entrepreneur Hiram Percy Maxim (1869-1936) created the American Radio Relay League in 1914 to help facilitate the relaying of messages via Amateur Radio. The resulting organized network of Amateur Radio operators helped send messages farther than any one station could reach at that time.

ARRL The national association for AMATEUR RADIO®

The American Radio Relay League (ARRL) is the national association for Amateur Radio in the US. Today, with over 156,800 members, ARRL is the largest organization of radio amateurs in the world. Our mission is simple:

"To advance the art, science, and enjoyment of Amateur Radio."

In 2016, ARRL revised its vision statement to more incisively state the organization's intentions for our Second Century, which began with our centennial in 2014.

ARRL's Vision Statement

As the national association for Amateur Radio in the United States, ARRL:

- Supports the awareness and growth of Amateur Radio worldwide;
- Advocates for meaningful access to radio spectrum;
- Strives for every member to get involved, get active, and get on the air;
- Encourages radio experimentation and, through its members, advances radio technology and education; and
- Organizes and trains volunteers to serve their communities by providing public service and emergency communications.

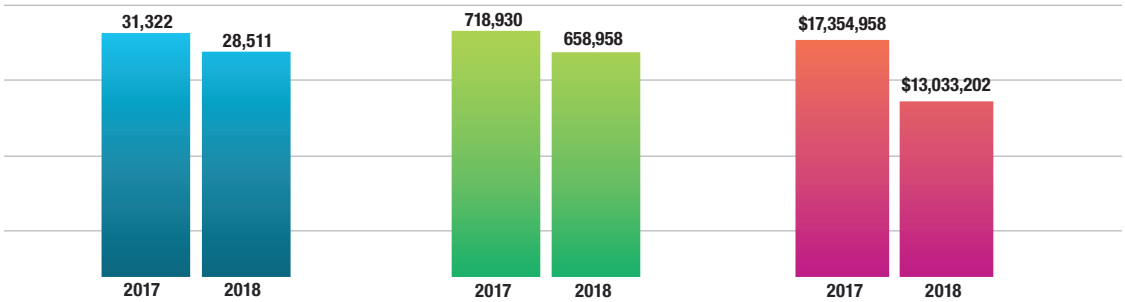
The execution of our mission is based on ARRL's Five Pillars: Public Service, Advocacy, Education, Technology, and Membership.

Left: ARRL Headquarters staff and Field Service volunteers work together to serve ARRL members and advance the art, science, and enjoyment of Amateur Radio. Right: Classroom teachers who enroll in the Teachers Institutes on Wireless Technology, offered through the ARRL Education & Technology Program, gain basic electronics knowledge by building small projects. They use their new-found knowledge back in their classrooms, while teaching STEM (science, technology, engineering, and math) topics. Opposite page: Ham radio can go anywhere you go — including to the top of a mountain or out on the ocean. Portable operating adventures are one of the most popular ham radio activities right now.

The Year in Review

Emergency Preparedness

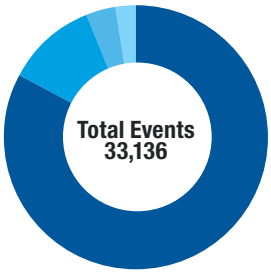
The Amateur Radio Service is most well-known for providing communications services at times when other methods are inoperable, through ARRL's Amateur Radio Emergency Service (ARES). ARES activity decreased slightly in 2018, after seeing an increase in 2017 — possibly due to 2017's extremely difficult Atlantic Hurricane Season.



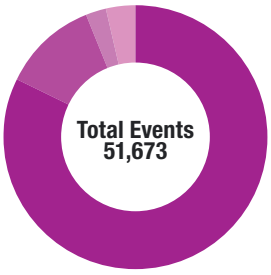
Total ARES Members
Active in 50 states and territories

Total Volunteer Hours

Volunteer Value
$19 x Total Volunteer Hours
(The hourly value of volunteer time is determined by Independent Sector, calculated at the time of this report. This figure is a national average.)



2017 ARES Events
- Drills, Training, Test Events
- Public Service Events
- Emergency Operations Events
- Other Events



2018 ARES Events
- Drills, Training, Test Events
- Public Service Events
- Emergency Operations Events
- Other Events

ARRL Puerto Rico Section Manager Oscar Resto, KP4RF (at left), and ARRL Virgin Islands Section Manager Fred Kleber, K9VV (second from right), accepted the 2018 International Humanitarian Award from the ARRL Board of Directors, on behalf of the Amateur Radio populations of Puerto Rico and the Virgin Islands for their work in the relief and recovery efforts necessary after the 2017 hurricane season in the Caribbean. The award was presented at the 2018 Dayton Hamvention in May, by ARRL President Rick Roderick, K5UR (second from left), and ARRL Southeastern Division Director Greg Sarratt, W4OZK (at right).

ARES Transitioning to New Online Reporting System

The Amateur Radio Emergency Service (ARES) has implemented an online system called *ARES Connect*, a volunteer management, communications, and reporting system that allows information to be logged by ARES members and managed through the ARRL Field Organization. *ARES Connect* covers event signup, reporting, and roster management, and does not change how ARES operates when serving a partner entity.

The *ARES Connect* system allows Emergency Coordinators, District Emergency Coordinators, and Section Emergency Coordinators to create events that ARES participants may sign up for. ARES participants will have their own accounts in the system, and be able to report their volunteer hours. Beta testing of *ARES Connect* began in March 2018, in four ARRL Sections with large ARES organizations, resulting in feedback that led to changes and enhancements in the system. The ARRL Headquarters staff has been trained in *ARES Connect* administration, with group registration under way and IDs assigned.

ARES Connect is one element in the new ARES Plan, which was adopted at the January 2019 Board of Directors meeting. Under the new ARES Plan, ARES training also is due for enhancement. Goals include aligning the ARES organizational structure with the National Incident Management System (NIMS) and Incident Command System (ICS). Emergency Coordinators (ECs) will continue to lead local ARES teams during an incident, with support from District and Section Emergency Coordinators.

Changes would encompass additional mandatory training to include ARRL Emergency Communications courses and the now-standard FEMA NIMS/ICS courses IS-100, 200, 700, 800, with IS-300 and 400 for higher levels. Training levels attained would dovetail with three new levels of ARES participation.

The proposed updates to ARES will allow for the implementation of a policy of Best Practices and Continued Improvement. With these guiding concepts in place, ARES can become a more flexible program that can adapt to meet emerging communications needs.

ARRL Renews Memorandum of Understanding with SATERN

On May 18, ARRL and The Salvation Army Team Emergency Radio Network (SATERN) renewed the Memorandum of Understanding (MoU) between the two organizations that spells out how they will work together in disaster and emergency responses. ARRL President Rick Roderick, K5UR, signed the MoU on behalf of ARRL. SATERN National Liaison Bill Feist, WB8BZH, represented SATERN at the signing and delivered a copy of the MoU already signed by The Salvation Army. ARRL and SATERN have enjoyed a formal working relationship since 1976.

The MoU defines the partnership between ARRL and SATERN and The Salvation Army, in which ARRL and SATERN agree to work together toward common goals, particularly in disaster response. The MoU also opens the possibility for sharing resources.

ARRL and SATERN also have agreed to coordinate their disaster response activities, to eliminate duplication of effort. The two organizations mounted an effective and coordinated Amateur Radio response in Puerto Rico and the US Virgin Islands during the 2017 Atlantic Hurricane Season.

ARRL Board Adopts Volunteer Monitoring Program

At its July 2018 meeting, the ARRL Board of Directors adopted the recommendations of the Official Observer Program Study Committee, to retire the venerable Official Observer (OO) Program and institute the Volunteer Monitoring (VM) Program. Under the terms of the new program, current Official Observers will be invited to apply for appointment as Volunteer Monitors. The Board expressed its appreciation for the OOs and their dedicated volunteer service over the years.

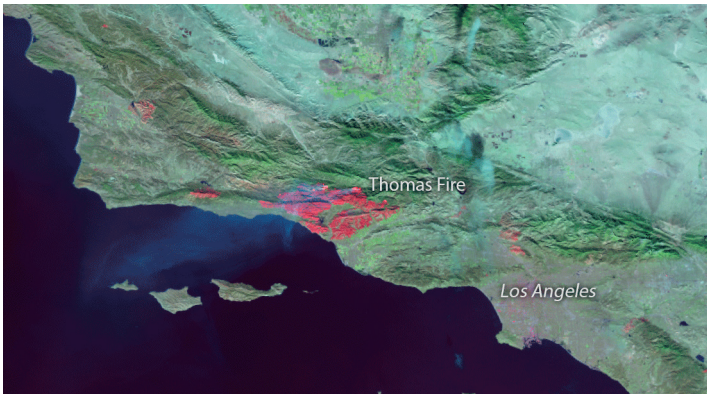
The implementation of the Volunteer Monitoring Program, which is expected to re-energize enforcement efforts on the Amateur Radio bands, was undertaken at the request of the FCC in the wake of several FCC regional office closures and a reduction in field staff. Coordination of cases and evidence gathering would become the responsibility of ARRL Headquarters staff, while the FCC will retain the responsibility for final decisions regarding action in specific cases.

The Volunteer Monitoring Program will be administered by a dedicated Headquarters staff member or an independent contractor working under the direction of ARRL Headquarters.

Preliminary plans include up to five Volunteer Monitors per ARRL Section, and up to 250 Volunteer Monitors overall. Volunteer Monitor accreditation would be limited to a 3-year term, renewable by satisfying requirements necessary to ensure competency.

Amateur Radio Responds to Several California Wildfires

Santa Barbara Club Assists the Response to the Thomas Fire



Burn scars from the massive Thomas Fire in southern California. This image was created by combining three of the NOAA/NASA Suomi NPP satellite's high-resolution thermal and visible channels from the VIIRS sensor (SVI 4,2,1). Areas of land that are hotter in temperature due to an active fire or a burn scar appear red in the imagery. [NOAA NESDIS photo]

Santa Barbara Amateur Radio Club (SBARC) members kept a close watch on the Thomas Fire that raged from early December 2017 to mid-January 2018. Using a variety of the club's analog and digital Amateur Radio assets, radio operators were able to observe firefighting efforts first hand and pass along immediate information, often before it was reported by official sources or local news media. SBARC operates five communication sites in Santa Barbara County, which use Automatic Dependent Surveillance-Broadcast (ADS-B) receivers that

are connected via a combination of amateur microwave IP links and mesh networking. "[They] were used to track and monitor airborne firefighting activities," said Levi Maaia, K6LCM, co-chair of SBARC's Telecommunications Services Committee.

Starting in mid-December, a round-the-clock emergency net convened on 2 meters, as commercial power for much of Santa Barbara County was cut and the fire descended on residential communities in Santa Barbara County, prompting evacuations. With repeaters on generator power and many operators running on battery power, net traffic consisted of official information, including evacuation orders, live reports on the rapidly approaching fire line from operators who remained inside the mandatory evacuation area, related traffic about firefighting efforts, and wind and weather conditions. SBARC volunteers set up an ad hoc remote receiving station to stream live fire ground and air communications audio over the internet and mesh network.

"Amateur stations without power, cell phone, or internet access could be kept informed of important information including evacuation orders, via the Amateur Radio net," Maaia explained.

The largest in modern California history, the Thomas Fire caused devastating losses in Ventura and Santa Barbara counties. In Ventura County, the Thomas Fire damaged or destroyed some Amateur Radio resources normally available to provide emergency communication. An Amateur Radio TV camera caught the first images of the Thomas Fire on December 4.

ARES Volunteers from Multiple Sections Assist the Carr Fire Response

Amateur Radio Emergency Service® (ARES®) volunteers from multiple ARRL Sections pitched in to provide or support communication during the catastrophic Carr Fire, which burned from July 23 – August 30, 2018. The fire claimed eight lives, destroyed more than 1,600 buildings, and burned 229,651 acres, forcing countless residents to evacuate.

On August 5, the Shasta-Tehama ARES team brought its communications trailer to Trinity County to support a shelter in Weaverville opened for evacuees, ARRL Sacramento Valley Section Emergency Coordinator (SEC) Greg Kruckewitt, KG6SJT, said.

Bill Johnson, AI6DE, at the Simpson Shelter in Redding, CA.

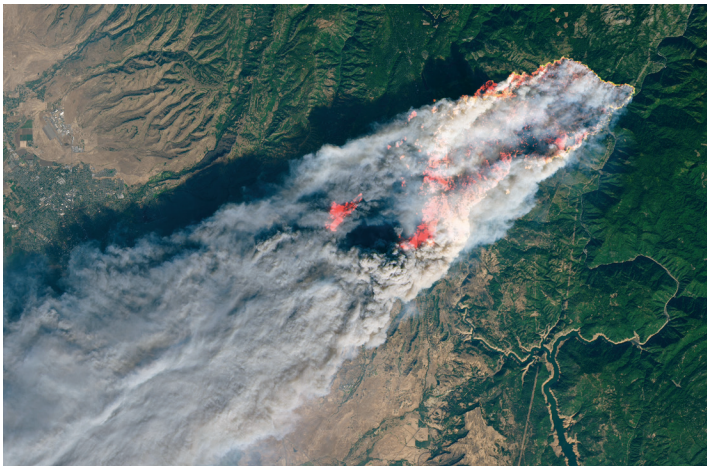
"This relieved the Sacramento County ARES volunteers who had been up there for several days," Kruckewitt said, adding that communications at the shelter were important, as power and cell phone coverage was often spotty, with power going off for hours at a time. At one point, more than a dozen ARES volunteers from Shasta, Sacramento, Butte, Placer, Trinity, and El Dorado counties were working at shelters opened in the wake of the Carr Fire.

Sacramento Valley ARES member Michael Joseph, KK6ZGB, served as the liaison at the Red Cross Gold County Region Disaster Operations Center (DOC) in Sacramento, Kruckewitt noted, adding that Joseph had been in the DOC since the fire started.

Kruckewitt said *Winlink* was the go-to mode, as fire damaged several repeaters and no repeater path exists to the Gold County Region of the Red Cross in Sacramento. ARES teams in other California Sections remained on standby in case they were needed.

The last ARES volunteers deployed to support an American Red Cross shelter stood down on August 7. Other shelter communicators deployed earlier remained on duty for 10 days.

Five Sacramento Valley ARES Groups Respond to the Camp Fire



On November 8, 2018, the Camp Fire erupted 90 miles north of Sacramento, California, at around 6:30 a.m. PST. By 8:00 p.m., it had burned 20,000 acres. As of 10 a.m. Pacific Standard Time on November 9, the fire had consumed 70,000 acres of land and was 5% contained. [NASA photo]

In Butte County, in northern California, the Camp Fire, the state's deadliest wildfire, triggered a call-up of ARES members for communication support. A small wildfire that started on November 8, 2018, in a mountainous area of Butte County quickly grew, due to high winds. Eventually more than 25,000 people were evacuated. The uncontrolled wildfire eventually consumed the town of Paradise, a town of some 27,000 residents. As multiple shelters opened to assist evacuees, five Sacramento Valley ARES groups were called out to support communication between the Red Cross Disaster Operations Center (DOC) and the shelters.

Utilizing mutual assistance, more than 20 ARES members from five ARES groups supported the shelters. ARES members were also tasked by the Red Cross to shadow Red Cross delivery vehicles to provide communication in the mountain areas to the shelters.

Sacramento Valley ARES volunteer Neil Bossard, N6CNY, on an activation for the Camp Fire. [Greg Kruckewitt, KG6SJT, photo]

ARES communication at the shelters was carried out using voice, *Winlink*, and email to pass shelter counts and tactical messages between the shelter and the Red Cross Disaster Operations Center and California Office of Emergency Services. The Red Cross supported ARES at the shelters with hot spots and backup radios.

Working 12-hour shifts, Sacramento Valley Section District Emergency Coordinator 3 Michael Joseph, KK6GZB, staffed the Red Cross radio station as net control for the DOC, passing messages and tracking ARES personnel. Sacramento ARES members also provided coverage.

Los Angeles Amateur Radio Operators Assist in the Woolsey Fire Response

The Woolsey Fire that swept through the westernmost portion of Los Angeles County, including Malibu, and the easternmost area of Ventura County in the ARRL Santa Barbara Section, required the evacuation of more than 200,000 Los Angeles County residents -- an unprecedented number in recent decades. Evacuees included several celebrities, several of whom lost homes in the fire.

"[G]overnmental radio systems used by fire and sheriff held up well, even though cell phone and internet service went out in many fire areas because of burned utility poles," said Los Angeles Section Manager Diana Feinberg, AI6DF. "Evacuees went to areas where cell phone service was generally available."

Feinberg said Los Angeles ARES (ARES LAX) had not been activated because no county hospitals were in the affected area and no hospital outside the fire zone was in danger of losing communication. She added, though, that a sizable team of ARES LAX operators organized by LAX-Northwest District Emergency Coordinator Roozy Moabery, W1EH, did extensive logistics work over the November 10 – 11 weekend at a major drop-off site in the San Fernando Valley for evacuee supplies. ARES team members worked with other volunteers to accept nearly 10 tons of pet food, plus thousands of boxes of toiletry and food items.

On the air for the Woolsey Fire, both the Los Angeles County Disaster Communications Service (DCS) — Amateur Radio volunteers overseen by the Sheriff's Department — and the City of Los Angeles Fire Department Auxiliary Communication Service (ACS) operated nets and monitored their respective frequencies. "The DCS group at Lost Hills Sheriff Station covers most of the Los Angeles County areas affected by the Woolsey Fire and communicated with organized amateurs in the cities of Calabasas, Agoura Hills, Hidden Hills, Malibu, Westlake Village, and unincorporated mountain areas when not affected by respective mandatory evacuation orders," Feinberg said. "The City of Los Angeles' ACS group was involved when the city's West Hills neighborhood in the San Fernando Valley became the fire's northeastern front, forcing about half of the West Hills community to evacuate." Santa Barbara Section Manager John Kitchens, NS6X, told ARRL that Ventura County ACS (ARES) supported evacuation centers and the Red Cross, in the Santa Barbara Section. Feinberg said ACS members also delivered food and water supplies to LAFD firefighters and performed fire patrols.

The ARRL Headquarters Emergency Response Team activated on September 12, as the storm continued to close in on the southeastern US coast.

ARRL staged HF and VHF/UHF equipment in the Maryland/Virginia area for deployment locally or farther down the coast.

The Hurricane Watch Net (HWN) activated on Thursday, September 13 to track the approach of Hurricane Florence and shut down its activation for 38 hours, shortly after the storm made landfall.

HWN Assistant Manager Stan Broadway, N8BHL, said nearly 200 stations checked in, and the net took in approximately twice that number of reports, funneling important information via WX4NHC at the National Hurricane Center (NHC). "Many were not at severe levels, but all 'ground truth' [reports] assist in plotting the activity of the storm," Broadway explained.

The Salvation Army Team Emergency Network (SATERN) activated on September 14 and 15. The net's primary mission was the receipt and delivery of outbound health-and-welfare messages from affected areas.

On September 17, ARRL requested a 30-day waiver of §97.307(f) of the FCC's Amateur Service rules to permit the use of PACTOR 4 digital mode for Amateur Radio communication within the continental US related to Hurricane Florence relief.

§97.307(f) of the Commission's Rules limits the digital data emissions of amateur stations operating below 28 MHz to a symbol rate not to exceed 300 baud, and in the 10-meter band (28.0 – 28.3 MHz) to a symbol rate not to exceed 1,200 baud, thus precluding the use of PACTOR 4, a data protocol that permits relatively high-speed data transmission in the HF bands. The protocol was used to great advantage, pursuant to FCC temporary waivers, in Hurricane Maria relief efforts in 2017.

ARRL South Carolina Section Emergency Coordinator Billy Irwin, K9OH, noted that South Carolina was "fully activated," and that he had coordinated regularly with the state Emergency Management Division. Operators initially served 12-hour shifts at the South Carolina Emergency Management Division and moved to 24-hour coverage as the storm intensified. Two operators were deployed to Berkeley County to assist with shelter operations at the request of the Emergency Coordinator there.

ARES District Emergency Coordinator EMEA Area 3 Earl Dean, W4ESD, said operators at the State Emergency Operations Center

Amateur Radio Response To 2018's Two Major Hurricanes

Hurricane Florence, August 31 – September 17

Hurricane Florence dumped historic amounts of rain, leaving much of the Carolinas inundated with dangerous, overwhelming flooding that extended into portions of Virginia and West Virginia.

ARRL HQ provided support to the ARRL Field Organization and ARES by shipping seven Ham Aid kits to South Carolina, by way of Georgia, on September 11 to assist with emergency preparedness needs in advance of Hurricane Florence. These kits were the same ones that ARRL/American Red Cross volunteers took to Puerto Rico in 2017 to assist with disaster communications following Hurricane Maria.

This satellite image shows Hurricane Florence's well-defined eye and outermost cloud bands beginning to approach the Outer Banks island group of North Carolina at 10:45 a.m. ET on September 12, 2018. [NOAA photo]

(SEOC) kept in contact with field volunteers in Marion and Dillon counties, after conventional telecommunications failed there. "We were able to deploy assets and personnel, thanks to our volunteers who managed communications between these areas and coordinated with the appropriate agencies," Dean said.

Gordon Mooneyhan, W4EGM, Public Information Officer (PIO) for the Grand Strand Amateur Radio Club (GSARC), said radio amateurs set up and managed organized communication networks to assist local government and emergency agencies, as well as non-commercial health-and-welfare messaging for residents affected by the disaster, to let family members outside the affected area know they are okay.

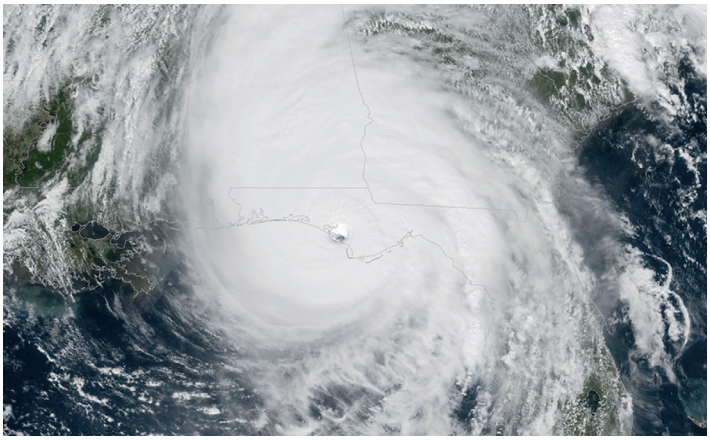
By September 20, 2018, conventional telecommunications were starting to return to normal in some communities affected by Hurricane Florence, but the long-gone storm had set up others for persistent and record-breaking flooding, primarily in eastern North Carolina and along several of the state's rivers. The storm, which made landfall near Wilmington, North Carolina, primarily affected the Carolinas, Georgia, and Virginia.

"Things are back to normal communication status, and demobilization is occurring for folks deployed," Billy Irwin, K9OH, said on September 19. At mid-week, the FCC reported that nearly all cellular service had been restored in South Carolina.

ARES volunteers from several South Carolina counties had pitched in to support emergency communication in the face of power and telecommunication outages and heavy rainfall. ARES Richland County Emergency Coordinator Ronnie Livingston, W4RWL, said volunteers in his county staffed the county Emergency Operations Center (EOC) and Red Cross. operators at the State Emergency Operations Center (SEOC) kept in contact with field volunteers in Marion and Dillon counties after conventional telecommunications failed there.

In North Carolina, storm surge had caused flooding in many communities. Ham radio volunteers responded in counties along the coast, including Wilmington, Topsail Beach, Jacksonville, and Morehead City, staffing both EOCs and shelters. Farther inland, numerous ARES teams activated in the face of river flooding to address a combination of sheltering needs for local residents and evacuees. Communication throughout the state has been supplemented by neighborhood-based operators, who reported emergencies to county EOCs. The FCC reported on September 19 that nearly one-third of cell service was out in Columbus, Pender, and Onslow counties. The storm also took out several broadcast outlets in the state.

Hurricane Michael, October 7 – 11



A satellite image of Hurricane Michael making landfall at Mexico Beach, Florida, 1:30 a.m. EDT on October 10, 2018. [NOAA photo]

Hurricane Michael was the third-most intense storm to make landfall on the United States, the strongest hurricane to ever make landfall in the Florida panhandle, as well as the fourth-strongest hurricane in the United States mainland by wind speed.

The ARRL Headquarters Emergency Response Team monitored the storm's status as it headed for landfall on the Gulf Coast and made updates to ARRL Field Organization leaders in the Northern Florida and Alabama Sections. ARES teams in the Northern Florida Section went on alert, and some activated to support emergency communication before and during the storm.

Miller Norton, W4EMN, the Communications Watch Officer at the Duval County Emergency Operations Center (EOC) in Jacksonville, Florida, monitored SARnet — a UHF-linked repeater network in Florida — when he heard an urgent call for help that needed to be sent to the State EOC in Tallahassee. All other forms of communication were out, but Norton was able to relay the message via Amateur Radio. He also passed messages and requests from the Jackson County EOC to the American Red Cross. Norton said officials in Tallahassee and Jackson County were both "incredibly grateful" for the way the SARnet system functioned during the weather emergency.

Jackson County Emergency Coordinator Ricky Whittington, KD4AST, deployed to the county EOC in Marianna, which was hit by the center of the storm at 140 MPH. "[The] county maintenance building across the road from the EOC was picked up and slammed into the north side and over the roof of the EOC just prior to the eye passing over," Whittington said. The internet failed, as did cell service for a while. Hams passed material and resource orders to the State EOC via HF and SARnet.

On October 11, Whittington reported "total devastation of Bay, Jackson, and Gulf counties," with loss of electrical power and water service, in addition to damage in Franklin, Holmes, and Leon counties, adding, "[The] mode of communications after the eye came across was ham radio, until we got minimal cell service..."

ARES teams in Escambia, Alachua, Gilchrist, Citrus, Duval, and Clay counties reported activating or monitoring for Hurricane Michael.

In the days after the storm, Northern Florida ARES sought volunteers to deploy for up to a week, to help resolve serious communication issues in the Florida panhandle. Hurricane Michael left the telecommunications infrastructure ravaged, and storm victims unable to communicate with family members outside the region. The Florida State Emergency Operations Center (EOC) is hoping to recruit eight operators. Section Emergency Coordinator Karl Martin, KG4HBN, said ARES needs as many volunteers as possible.

Clay County ARES Assistant Emergency Coordinator (AEC) and Public Information Officer Scott Roberts, KK4ECR, was cited in a news media account that several counties with damage to critical infrastructure remained without any form of communication, with Amateur Radio remaining as the only method of communication between shelters and emergency management.

Following the storm, David Morris, K4AW, The American Red Cross Communications Manager for the Hurricane Michael response, sent a letter to Karl Martin, KG4HBN, to acknowledge Amateur Radio's contribution, saying, "I wish to acknowledge and congratulate each of you and the many amateurs who manned the stations at the Red Cross shelters and District Operations during Hurricane Michael...I hope you will pass along to your associates our heartfelt appreciation for an outstanding job. The professionalism and dedication by each operator was truly inspiring."

Morris called Amateur Radio operators, "unsung heroes spending countless hours in the field to help alleviate human suffering."

Cape Cod Amateur Radio Emergency Service (ARES) was active at the Barnstable County Mutual Aid Coordination Center (MACC), convening ARES/SKYWARN nets and providing wind damage and coastal flood reports from their region.

The Peabody Emergency Operations Center (EOC) was active on the Massachusetts North Shore, and the EOC served as a net control point for SKYWARN nets in the North Shore area. Coastal flooding reports from the North Shore and surrounding areas and snowfall totals were relayed to WX1BOX and other agencies from their nets.

At the Eastern Massachusetts ARES section level, ARES went on standby for agency needs or to support any local ARES activations. Local nets were active on approximately 10 different repeaters across the NWS Taunton coverage area. The New England Echolink/IRLP reflector system was also active, with reporting stations from across New England, supplemented by a tie-in to the conference node typically used by the VoIP Hurricane Net.

An offer of assistance came from members of Illinois SKYWARN, including a team member who handles SKYWARN for WX9LOT, the Amateur Radio station at the NWS Chicago/Romeoville office.

East Coast Radio Amateurs Track Major Winter Storms

WX1BOX, the Amateur Radio station at the National Weather Service (NWS) office in Taunton, Massachusetts, joined numerous SKYWARN nets across New England in activating for an early-January 2018 nor'easter that brought significant coastal flooding, damaging winds, and heavy snow accumulations to the region. The eastern coast of New England experienced high snowfall rates of 2 to 3 inches per hour, with accumulation of 8 to 18 inches, whiteout conditions, and even "thunder snow." A dramatic drop in barometric pressure generated a so-called "bomb cyclone" with wind gusts as high as 76 MPH.

WX1BOX was active for 16.5 hours, supporting data gathering for the NWS. Local and state emergency managers, broadcast media, and other agencies also used these reports for situational awareness during the storm and to assess the need for any later recovery efforts.

Coastal flood damage in Marblehead, Massachusetts from the nor'easter that hit on March 2 and 3, 2018. [Jim Palmer, KB1KQW, photo]

Maryland Amateur Radio Emergency Service Teams Activate for Flooding

On May 27, ARES volunteers in the Maryland-DC Section activated in the wake of regional flash flooding from Tropical Storm Alberto, a storm that lasted from May 25 – 31, 2018. Hit especially hard was Ellicott City, where vehicles were washed away by fast-moving flood waters more than 10 feet deep.

Section leadership asked radio amateurs in the affected areas to check on the health and welfare of their neighbors. ARRL Assistant Maryland-DC Section Manager and Public Information Coordinator Ken Reid, KG4USN, said high-water rescues were needed in Perry Hall and Patapsco State Park.

MDC Section Manager Marty Pittinger, KB3MXM, activated ARES in eight central Maryland counties at 6:30 PM EDT, and 15 minutes later, more than 40 ARES volunteers reported to their respective 2-meter nets in five counties. Amateur Radio volunteers in the MDC Section provided additional situational awareness, and Pittinger interfaced with Atlantic Division leadership, Maryland Section Emergency Coordinator Jim Montgomery, WB3KAS, and state and local authorities.

Conventional telecommunications continued to function throughout the heavy weather, which caused road closures and power and natural gas outages. The MDC ARES volunteers remained on duty until 10:15 PM on May 28. During the activation, radio amateurs made use of VHF, UHF, and HF capabilities, as well as Voice over Internet Protocol (VoIP) modes.

"This demonstrated a 'virtual EOC' approach to storm monitoring utilizing out-of-area resources to support a storm incident with local personnel providing local perspective," Eastern Massachusetts Assistant Section Emergency Coordinator Rob Macedo, KD1CY, said.

WX1BOX and various ARES groups had their hands full during March as well, as the northeastern US was hit with three nor'easters that brought severe weather conditions and a lot of snow. The storms caused the Cape Cod ARES team to extend activations for SKYWARN, WX1BOX, and shelter operations.

The first in the trio of nor'easters — on March 2 and 3 — brought mostly heavy rain and wet snow to parts of Massachusetts, Connecticut, eastern New York, and northern New England. Strong to damaging winds swept central and southern New England, with hurricane-force gusts across southeastern New England and Cape Cod. The storm caused severe coastal flooding across multiple high-tide cycles.

WX1BOX volunteers were active for 17 hours straight, and afterward, some continued to monitor high tides and strong winds, which persisted into the weekend. Volunteers handled more than 1,000 reports of wind damage. At the height of the storm, nearly a half million customers in Massachusetts lost electrical power. Amateur Radio nets were active on repeaters, and on the New England reflector on EchoLink® conference node 9123/*NEW-ENG3*/IRLP 9123 system.

Eastern Massachusetts ARES was on standby, and Cape Cod ARES was active for several days with a regional sheltering operation, until power was largely restored to Cape Cod. WC1MAB at the Massachusetts Emergency Management Agency Region 2 Headquarters was also active.

A few days later, a second nor'easter brought heavy, wet snowfall to southern New England, causing another round of downed trees and power lines and nearly a half-million customers without power in Massachusetts and Connecticut. Eastern Massachusetts ARES was on standby during the storm and for several days afterward until most power was restored.

At WX1BOX, another 14 hours of SKYWARN operations ensued. Amateur Radio nets in Massachusetts, Connecticut, and Rhode Island fielded reports of heavy snowfall, strong gusty winds, heavy rainfall, and minor coastal flooding. Widespread snowfall amounts totaled up to 16 inches in interior southern New England. As much as 30 inches of snow fell in western Massachusetts, as well as in parts of New Hampshire, Vermont, and Maine.

Macedo said it became clear from SKYWARN reports that the region would experience extended power outages. "These reports were noted by state emergency management and the media, and used to inform the public about storm risks and to prepare and act accordingly," Macedo said.

The third storm was a major nor'easter and blizzard that affected the entire New England region with heavy snowfall — 2 feet or more in northern areas. Wind gusts greater than 70 MPH across Cape Cod, combined with the weight of wet snow, took down trees and utility lines. Eastern Massachusetts ARES went on standby once more.

SKYWARN nets were active throughout the region, gathering snowfall and wind reports from around southern New England. WX1BOX volunteers were on duty for 16 hours, bringing the monthly total to 47.

Seven Cape Cod ARES volunteers provided communication at shelters, as cell phone service was disrupted during the blizzard. Cape Cod ARES District Emergency Coordinator Frank O'Laughlin, WQ1O, said the volunteers "seamlessly" transitioned from providing situational awareness to addressing communication failures.

Advocacy

ARRL Requests Expanded HF Privileges for Technician Licensees

In late February, ARRL entered a Petition asking the FCC to expand HF privileges for Technician licensees to include limited phone privileges on 75, 40, and 15 meters, plus RTTY and digital mode privileges on 80, 40, 15, and 10 meters.

The proposal stemmed from recommendations put forth by the ARRL Board of Directors' Entry-Level License Committee, which explored various initiatives and reviewed more than 8,000 responses to membership surveys in 2016 and 2017. The Entry-Level License Committee offered very specific data- and survey-supported findings about growth in Amateur Radio and its place in the advanced technological demographic that includes individuals younger than 30.

The proposal is critical to developing improved operating skills, increasing emergency communication participation, improving technical self-training, and boosting overall growth in the Amateur Service, which has remained nearly inert at about 1% per year.

ARRL believes expanding Technician privileges will attract more newcomers to Amateur Radio, lead to increased retention of licensees who hold Technician-class licenses, and provide an improved incentive for entry-level licensees to increase technical self-training and pursue higher license class achievement and development of communications skills.

The FCC has not assessed entry-level operating privileges since 2005, and over the course of the intervening years, the Technician license has become the principal entry-level license class in the Amateur Service.

Now numbering some 378,000, Technician licensees comprise more than one-half of the US Amateur Radio population. ARRL said that after 17 years of experience with the current Technician license as the gateway to Amateur Radio, it's urgent to make it more attractive to newcomers, in part to improve upon science, technology, engineering, and mathematics (STEM) education.

Preparations for WRC-19 Continue

ARRL is Amateur Radio's proactive advocate and representative voice in achieving regulatory and legislative success. Through our efforts in Washington and on the international stage through the auspices of the International Amateur Radio Union (IARU), ARRL works to ensure that access to the Amateur Radio spectrum remains available and free from interference as well as from acquisition by commercial interests. ARRL is an active participant, working with US government agencies to prepare positions and proposals to the Americas Regional Telecommunications Organization — the Inter American Telecommunication Commission (CITEL) and at the global level, the International Telecommunication Union (ITU).

The International Telecommunication Union (ITU) will hold the World Radiocommunication Conference 2019 (WRC-19) in Sharm el Sheik, Egypt, from October 28 to November 22, 2019. Each World Radiocommunication Conference will review and revise the Radio Regulations. They are typically held every 3 to 4 years.

This Conference has several agenda items and other "issues" identified in WRC-15 Resolution 809 that may impact Amateur Radio. The major issues ARRL is tracking to prepare for WRC-19 are