



December 2019

(www.k7id.org)

P.O. Box 1765 Hayden, ID 83835-1765

REGULAR CLUB MEETINGS:

Monday, Dec 9, 6:00 p.m.
Rathdrum Senior Center
8037 W Montana Street
Rathdrum, Idaho

Topic: Election and Potluck
Presenters: Everyone
Refreshments: Everyone

VE Testing
None in December

Monday, Jan 13, 7:00 p.m.
Search & Rescue Building
10865 N Ramsey Rd.
Hayden, Idaho

Topic:
Presenters:
Refreshments:

VE Testing
Monday, Jan 13, 5:30 p.m.
Search & Rescue Building
10865 N Ramsey Rd.
Hayden, Idaho

Upcoming Events

Skywarn Recognition Day
Dec. 7 (0001-2400 UTC)

Winter Field Day
Jan. 25 (0001-2400 UTC)

QRM from the President

“Can you give me a signal report?”

In 1889, William Henry Preece assembled a group of men at Coniston Water in the Lake District in Lancashire (Wales) and succeeded in transmitting and receiving Morse radio signals over a distance of about 1 mile (1.6 km) across water.

That’s 131 years ago ... (only 64 years before KARS was formed!) Wow! Radio telegraphy is born! We are all Preece’s beneficiaries!

As we prepare for the 2019 KARS Christmas Party, I am reminded of how important “connections” become in our hobby. A poor connection between transmitter and antenna can blow up your finals. A bad coax connection can send you searching for hours as to the reason you can’t get a signal on the air. A bad microphone connection can cause your signal to cut in and out. Good connections are critical to good communication!

Our Christmas Party is a great place to “renew our connections” with each other and make “new connections”! We know the on-air voice or call sign but sometimes we lack the connection of a face to the voice! It’s a great time to see our radio club in action and to remember we have a “communications” hobby!

2019 has flown by for me. KARS has been so active and accomplished so much this year. Re-elected to serve as President another year (along with last year’s Executive Board) we will again attempt to advance the art of radio in our area and have a great time doing it! I do believe it was an inspired thought and motivation for 2020 regarding KARS... *“It’s about people...with radios!”*

Hope to see you at the Christmas Party! Rathdrum Senior Center, December 9, 2019. It’s a potluck extravaganza! Bring enough to feed 8. Doors open 1730, dinner 1800.

See you there!

Frank Krug, KD7FK,
President@K7ID.org

Kootenai Amateur Radio Society (KARS)
November 2019 Meeting Minutes

The November 11, 2019 KARS meeting was held at the Search & Rescue Building located at 10865 N Ramsey Rd. Hayden, Idaho.

The meeting was called to order at 7:04 PM by Club President Frank Krug (KD7FK). The Pledge of Allegiance was led by Frank Krug (KD7FK).

Attendance: Twenty-nine (29) members and nine (9) visitors were in attendance.

First time visitors introduced themselves.

VE Testing: Jerry Hart (W7KR) reported that seven people tested this evening.

The results were as follows:

Passed Technician	2
Attempted Technician	1
Passed General	4

Jerry Hart (W7KR) reminded everyone about the KARS Radio group.io page.

Jerry Hart (W7KR) recognized those who helped with the installation of the end-fed antenna at the Search & Rescue building either by donating equipment or helping with the set up. Those recognized were: Mark Avakian (N7MA), Axel Arbruster (N7AXL), Tom Macy (W7UAT), Jim Petersen (AD0AZ), Curt Hurley (KI7TFC), Chris Jones (KE7CJO), and Frank Krug (KD7FK).

Veterans' Day Appreciation: All veterans present at the meeting were invited to come to the front of the room to introduce themselves and give their service branch and years of service. Twenty-three veterans were honored.

Frank Krug (KD7FK) reminded everyone about the Coffee & Donuts meeting from 8 to 10 AM each Thursday morning at the Silver Lake Mall. All are welcome.

Minutes: Larry Telles (K6SPP) moved to accept the October 2019 minutes as printed in the newsletter; Steve Murphy (KG7UWB) seconded; the motion passed by member vote.

The Treasurer's Report for October was given by Rod Anderson (K7ZBE):

October 2019	
Checking	\$2551.94
Repeater Fund	\$ 78.00
Savings	\$ 927.79
Petty Cash	\$ 57.16

TOTAL \$3,614.89

Income: Savings interest (\$0.02), Tee-shirts (366.00), Memberships (\$150.00). Total \$516.02.

Expenses: Rathdrum Senior Center-Facility Deposit (\$50.00), Tee-shirts (\$421.56), September refreshments (\$18.99). Total \$490.55.

Adam Crippen (N7ISP) moved to accept the October Treasurer's report; Bob Kesson (K7CGA) seconded; the motion passed by member vote.

Rod Anderson (K7ZBE) announced that upcoming expenses include \$300.00 for the Mica Peak repeater site and expenses related to the Christmas party. Adam Crippen (N7ISP) moved to pay for the Mica Peak lease; Lindy Bryant (KE0AZD) seconded; the motion passed by member vote.

OLD BUSINESS

*Frank Krug (KD7FK) made comments on the following:

—This evening's refreshments were provided by John Galdi (KK6WGX) and Kathy Kent (KI7OVA)

—A T-shirt fundraiser is helping to make some extra money for the Club

—Check out the K7ID.org web page and the Club's Facebook page

—Repeater site maintenance needs to be done at the Canfield Butte and Mica Peak repeater sites. There have been scheduling issues that are still being worked on.

NEW BUSINESS

*Search and Rescue Antenna Installation Report—Jerry Hart (W7KR) gave a report on the end-fed antenna installation. A Diamond X-200 antenna was installed for VHF and an end-fed half wave antenna for 10-80 meters.

*Election of Club Officers—Five positions are currently open. Kathy Kent (KI7OVA) reported that she did not receive any nominations since the October meeting. Frank Krug (KD7FK) called for volunteers to run for any of the positions. No one volunteered.

Ed Stuckey (AI7H) moved to accept the current officers for another year by acclamation; Steve Murphy (KG7UWB) seconded. Rod Anderson (K7ZBE) stated that the bylaws would need to be set aside to allow him to continue as Treasurer.

Bob Kesson (K7CGA) moved to extend the current treasurer term one more year; Mike Glauser (AI7MG) seconded; the motion passed by member vote.

The motion made by Ed Stuckey (AI7H) to accept the current officers for another year by acclamation was passed by member vote.

*Christmas Party—The Christmas party will be held at the Rathdrum Senior Center. A sign-up sheet to help with the party was passed around.

*Evening Presentation: Brandon Vetter (KB6UMY) gave a presentation on Amateur Radio Emergency Data Network (AREDN) and North Idaho Repeater Group updates.

Frank Krug (KD7FK) declared the meeting adjourned at 8:27 pm.



AMSAT Says HuskySat-1 Paving the Way for Further Cooperation

AMSAT says it had to maneuver some regulatory challenges in establishing its partnership with the University of Washington to share the just-launched HuskySat-1. The satellite went into space on November 2 aboard a Cygnus cargo vessel, which docked to the International Space Station. HuskySat-1 will be boosted into a higher orbit and deployed in January, and once it completes its primary mission, it will be turned over to AMSAT for operation of its linear transponder sometime in the second quarter of 2020. AMSAT Vice President-Engineering Jerry Buxton, N0JY, explained this week that the AMSAT-UW partnership presented some regulatory challenges, but has paved the way for similar partnerships in the future.

“The [FCC] Part 97 license that AMSAT will operate under does not include or allow the use of any of the experiments on board,” Buxton explained. “As those experiments were not able to conform to Part 97’s so-called ‘educational exemption,’ including the K-band radio, two licenses were required.” UW obtained a Part 5 Experimental license to cover the telemetry downlink of the AMSAT transponder module, but the transponder must remain off during that operation. The AMSAT transponder module will operate under an FCC Part 97 Amateur Service license.

“This was the first partnership with an educational institution where an AMSAT radio was flown on a non-AMSAT (UW in this case) CubeSat,” Buxton said. “In the process of working with the FCC and NASA to obtain a single Part 97 license that was not complicated or restricted by ‘pecuniary interest,’ the experience developed an understanding with FCC as to how a mission such as HuskySat-1 could be fully licensed under Part 97.”



Buxton said delays and difficulties encountered in executing all of the requirements to qualify under Part 97 ultimately bumped up against the mission deadline to have a license in hand, so the CubeSat could be integrated on the launch vessel. "The only way forward at that time, in order for UW to make the launch, was to do the separate licensing," Buxton said.

"It was lots of work and some good frustration along the way. I thank and commend our partners at University of Washington as well as the FCC for their work to make it happen, and our friends at NASA for giving us the opportunity to push for a path to amateur radio licensing for more of the CubeSat launches they sponsor," Buxton remarked. "I believe that it has resulted in a known path toward fully Part 97-licensed educational (e.g., university) CubeSats. That should in turn offer more opportunities for AMSAT radios to fly as the communications package for a mission as well as an operating amateur radio satellite, in the same way as the CubeSats we produce."

After deployment, HuskySat-1's 1,200 bps BPSK beacon on 435.800 MHz should be active and decodable with the latest release of *FoxTelem*. HuskySat-1 is expected to run its primary mission for 30 days - testing a pulsed plasma thruster and experimental 24 GHz data transmitter - before being turned over to AMSAT for amateur radio operation. HuskySat-1 will feature a 30 kHz wide, 145 to 435 MHz linear transponder for SSB/CW. - *Thanks to AMSAT News Service*

ARRL Legislative Advocacy Committee Drafting New Bill Addressing Antenna Restrictions

The ARRL Board of Directors Legislative Advocacy Committee is in the process of drafting a new bill to address the issue of private land-use restrictions on amateur radio antennas. The proposed legislation would be the successor to the Amateur Radio Parity Act. The Legislative Advocacy Committee, chaired by Pacific Division Director Jim Tiemstra, K6JAT, will report to the Board soon, once plans are fleshed out. Tiemstra told the ARRL Executive Committee (EC) on October 12 in Aurora, Colorado, that Advocacy Committee members have traveled to Washington to meet on multiple occasions with members of Congress and their staffs to inform them of the committee's plans.

ARRL Washington Counsel Dave Siddall, K3ZJ, told the EC last month that he understands the conditional exemption of amateur radio licensees from the RF exposure measurement requirements in the FCC's Part 97

Amateur Service rules is proposed to be removed. A *Report and Order* in FCC Docket WT 13-84 is making the rounds that, if adopted, would make amateur licensees subject to the same requirements as all other FCC licensees. The *Report and Order* is expected to be released before year's end.

Siddall also reported to the EC that the FCC is poised to address the 60-meter band amateur allocation adopted at World Radiocommunication Conference 2015 (WRC-15). The National Telecommunications and Information Administration (NTIA), on behalf of US government primary users of the band, has insisted that the maximum permitted power for radio amateurs must not exceed that agreed to at WRC-15 - 15 W effective isotropic radiated power (EIRP) or 9.1 W ERP - despite the fact that Canada has authorized its amateur licensees to use 100 W, and eliminate the current discrete channels, which ARRL's petition proposed to retain. NTIA oversees federal government frequency allocations and users.

Minutes (<http://www.arrl.org/board-meetings>) of the October 12 Executive Committee meeting were posted this week on the ARRL website. (ARRL News)

ARRL to Launch New On the Air Magazine in January

ARRL is launching a new magazine, *On the Air*, in January 2020. To be published on a bimonthly basis, *On the Air* will offer new and beginner-to-intermediate-level radio amateurs a fresh approach to exploring radio communication. Each issue will include advice and insights on topics from the variety of Amateur Radio interests and activities: radio technology, operating, equipment, project building, and emergency communication. The goal of this new magazine is to be a vital resource in helping new and newer radio amateurs get active and involved in radio communications.

"*On the Air* responds to the brand new and not-so-brand-new radio amateur seeking ideas and answers," said *QST* Managing Editor Becky Schoenfeld, W1BXY. Schoenfeld is part of the ARRL staff team that developed the new magazine. The planning included an extensive national-level study of new Amateur Radio licensees, identifying their motivations for getting licensed and their experiences of getting started. A focus group responded positively to a trial sample edition of the magazine.

"Too many new licensees never take the next step," says Schoenfeld. "We're excited to introduce a new Amateur Radio magazine for this audience, aimed at

getting them active, getting them involved, and getting them on the air.”

The first issue of *On the Air* will be published in January 2020 (January/February issue) and will be introduced as a new ARRL membership benefit. Effective November 1, when eligible US radio amateurs join ARRL or renew their memberships, they will be prompted to select the print magazine of their choice - *On the Air* or *QST*. Current members receiving the print edition of *QST*, upon renewal, may choose to continue receiving the monthly print edition of *QST* or the print edition of the bimonthly *On the Air*.

All ARRL members, including international members, will be able to access digital editions of both *QST* and *On the Air*. Members who already access *QST* on the web or from the mobile app will be able to access *QST* and *On the Air* starting in January. (ARRL News)

Happy 45th Birthday, AMSAT-OSCAR 7!

The world’s longest-lived satellite, AO-7, turned 45 years old this month. It was [launched](https://www.amsat.org/wordpress/wp-content/uploads/2014/11/AMSAT-Newsletter-1974-AO-7Launch.pdf) (https://www.amsat.org/wordpress/wp-content/uploads/2014/11/AMSAT-Newsletter-1974-AO-7Launch.pdf) on November 15, 1974, from Vandenberg Air Force Base in California. After nearly 7 years of service, AO-7 was thought to have reached the end of its life in June 1981 due to battery failure, and a [premature obituary](https://www.amsat.org/wordpress/wp-content/uploads/2019/11/ASR-AO-7_Record.pdf) (https://www.amsat.org/wordpress/wp-content/uploads/2019/11/ASR-AO-7_Record.pdf) appeared in the *AMSAT Satellite Report*.

In an interesting footnote, although AO-7 was thought to be nonfunctional after 1981, [it’s been reported](https://nowahistoria.interia.pl/prl/news-jak-solidarnosc-walczaca-wykorzystala-satelite-do-zbudowania,nId,1734550) (https://nowahistoria.interia.pl/prl/news-jak-solidarnosc-walczaca-wykorzystala-satelite-do-zbudowania,nId,1734550 [in Polish]) that the Polish Solidarity movement used AO-7 to pass messages in 1982, while Poland was under martial law.

Twenty years later, on June 21, 2002, G3IOR reported hearing “an old-style CW beacon” from an unknown OSCAR near 145.970 MHz. It didn’t take long to identify the satellite as AO-7, which remains operational and well-used while it’s in sunlight.

To celebrate AO-7’s 45th birthday, AMSAT plans to auction a set of gold-plated AO-7 cufflinks and a 50th

Anniversary AMSAT lab coat (size 42R). The auctions are now [live on eBay](#) and will conclude shortly after 0200 UTC on November 26, 2019. AMSAT reports that 100% of the proceeds will go toward Keeping Amateur Radio in Space. — *Thanks to AMSAT News Service*

W1AW to Commemorate 98th Anniversary of First Amateur Radio Signals to Span the Atlantic

December 11 marks the 98th anniversary of the success of ARRL’s [Transatlantic Tests](#) in 1921, organized to see if low-power amateur radio stations could be heard across the Atlantic using shortwave frequencies (i.e., above 200 meters). On that day, a message transmitted by a group of Radio Club of America members at 1BCG in Greenwich, Connecticut, was copied by Paul Godley, 2ZE, in Scotland.

While the first two-way contact would not take place until 1923, the 1921 transatlantic success marked the beginning of what would become routine communication between US radio amateurs and those in other parts of the world - literally the birth of DX.

To commemorate this amateur radio milestone, Maxim Memorial Station W1AW will be on the air through the day on December 11 with volunteer operators. The goal is to encourage contacts between radio amateurs in the US and Europe while showcasing the significance of the transmissions that pioneered global communication and laid the groundwork for technology widely used today. The event will run from 1300 until 0000 UTC. Some details are still being worked out, but operation will focus on 40 and 20 meters (SSB).

[Contact](mailto:n1bcg@internetwork.com) (mailto:n1bcg@internetwork.com) Clark Burgard, N1BCG, for more information. (ARRL News)

HamSCI Founder Nathaniel Frissell, W2NAF, Wins \$1.3 Million Ionosphere Study Grant

Nathaniel Frissell, W2NAF, now a University of Scranton physics and electrical engineering professor, has won a \$1.3 million National Science Foundation (NSF) grant to study weather effects in the ionosphere by leveraging a network of amateur radio stations. Frissell is perhaps best known within the amateur radio community as the founder of HamSCI, the Ham Radio Science

Citizen Investigation initiative. The Distributed Arrays of Small Instruments (DASI) (<https://www.nsf.gov/pubs/2019/nsf19545/nsf19545.htm>) project will be implemented over 3 years. As principal investigator, Frissell - a space physicist - will head a collaborative team that will develop ground-based space science observation instruments and software. His research effort will recruit multiple universities and radio amateurs to operate a network of [personal space weather stations](https://www.hamsci.org/basic-project/personal-space-weather-station) (<https://www.hamsci.org/basic-project/personal-space-weather-station>).

“I’m very excited,” Frissell told ARRL. “This grant is extremely exciting for both ham radio and ionospheric research. Perhaps more than the money, it means that the NSF is recognizing the good work that we, as hams, are doing and the contribution we can make in the future.”

Frissell said the grant demonstrates that the scientific community is taking amateur radio seriously. “This is great for ham radio, as it provides yet another avenue for us to contribute to the art and science of radio in a meaningful way,” he said.

The space weather equipment will be developed at two levels of sophistication - one at a low-cost, easy-to-use level for radio amateurs, and another, more complex version for university partners that will allow the collection of additional data.

“The equipment and network allows us to measure and characterize ionospheric and geomagnetic short-term, small-scale variability on a large geographic scale in order to understand the response of the ionosphere to sources from above (space weather) and below (atmospheric forcing),” Frissell explained in his grant proposal. “By designing personal space weather station variants at multiple price points, open sourcing the hardware and software, and directly engaging with the ham radio community, this project maximizes the chances of widespread adoption of this system.” Frissell intends to focus his recruitment efforts through HamSCI and TAPR.

Frissell says measuring and better understanding modulations in the ionosphere is important, because these

changes can affect Earth- and space-based radio signals, which can, in turn, affect satellite communication, GPS systems, HF radio, and more. In his [earlier study](https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2018GL077324), (<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2018GL077324>) “Modeling Amateur Radio Soundings of the Ionospheric Response to the 2017 Great American Eclipse,” published in *Geophysical Research Letters*, Frissell measured changes in the ionosphere during the solar eclipse, using data collected by participating hams who engaged in the Solar Eclipse QSO Party (SEQP). His new initiative expands this model and will develop new equipment to collect and analyze additional data.

Collaborators in the NSF-funded DASI project include William Engelke, AB4EJ, and Travis Atkison of the University of Alabama; David Kazdan, AD8Y, and Soumyajit Mandal, AC8WY, of Case Western Reserve University; Hyomin Kim, KD2MCR, of the New Jersey Institute of Technology; Phil Erickson, W1PJE, of MIT’s Haystack Observatory, and Scott Cowling, WA2DFI, of TAPR and Zephyr Engineering.

A graduate of Montclair State University and Virginia Tech, Frissell joined the faculty at the University of Scranton this fall, after a stint on the New Jersey Institute of Technology faculty.

Frissell told ARRL that the 2020 HamSCI workshop will take place March 20 - 21 at the University of Scranton. He’s also hoping to take advantage of the opportunity the grant provides to establish a ham radio club at the University of Scranton. (ARRL News)

ARRL Self-Guided Emergency Communication Course EC-001-S is Now Available On Demand

ARRL’s EC-001-S online “Introduction to Emergency Communication” course is now available to students in an on-demand format, allowing students to register for the course and begin work at any time. This course is designed to provide basic knowledge and tools for any emergency communications volunteer.

In response to the great course demand and to expand access to EC-001, ARRL developed a self-guided version of the course, EC-001-S, which launched in June. This version of the course is designed for those who prefer to

work independently and who do not need guidance from an online mentor. EC-001-S was previously offered only during specific sessions along with the traditional mentored version. The course opened for general enrollment on November 6.

Visit (<http://www.arrl.org/online-course-registration>) the ARRL Online Course Registration page for more information and to register. (ARRL News)

IARU Region 2 Third Emergency Communications Workshop Reviews Recent Disaster Responses

The third International Amateur Radio Union (IARU) Region 2 (the Americas) [Emergency Communications Workshop](#) took place earlier this month in Lima, Peru, immediately following the 20th IARU Region 2 General Assembly. The workshop was sponsored by the Executive Committee of IARU Region 2, and hosted by Radio Club Peruano.

Region 2 Emergency Coordinators and subject-matter experts discussed recent incident responses with the goal of increasing the capability of Region 2 radio amateurs to respond to large-scale, multinational communication emergencies and disasters. The workshop provided an opportunity for leaders to network, with the goal of increasing cooperation and collaboration for future responses. Twenty-three countries from around the globe were represented. Among workshop highlights was a presentation on Winlink, the hybrid internet/Amateur Radio email network. [More information](https://www.iaru-r2.org/emergencies/third-iaru-r2-emcom-workshop/) (<https://www.iaru-r2.org/emergencies/third-iaru-r2-emcom-workshop/>) and workshop documents are available. (ARRL News)

FCC Asked to Clarify Amateur Rules Governing Encrypted or Encoded Messages

The FCC's Wireless Telecommunications Bureau is soliciting comments on a [Petition for Declaratory Ruling](#) filed on behalf of New York University (NYU) seeking to clarify that Section 97.113(a)(4) of the Amateur Service rules prohibits the transmission of "effectively encrypted or encoded messages, including messages that cannot be readily decoded over-the-air for true meaning." Comments are due by December 2, with reply comments (comments on comments already filed) due on December 17. The FCC has requested that all filings refer to WT

Docket No. 16-239, which grew out of an ARRL *Petition for Rule Making* seeking elimination of symbol rate limitations on the amateur bands and is unrelated to the wider encryption issue.

A footnote in the *Petition* says the efficacy and availability of recently announced software to decode Winlink communications when sent using different PACTOR modes is "unclear" as it applies to existing PACTOR-capable modems. "If any bits or letters are missed or corrupted during the reception - as would be expected under HF propagation - the message cannot be realistically decoded," the footnote asserts. SCS, the company that created PACTOR, recently unveiled its [PMON](https://www.p4dragon.com/en/PMON.html) (<https://www.p4dragon.com/en/PMON.html>) software that it says offers the ability to monitor the content of PACTOR 1, 2, and 3 transmissions over the air. (ARRL News)

Maine Radio Amateurs Helping to Deploy AM Band Public Information Radio Service

Waldo County, Maine, is implementing the nation's first county-wide emergency AM radio station with the help of radio amateurs.

"We realized that the last option [in emergencies] most people have for getting information is by broadcast radio," said [Waldo County Emergency Management Agency](#) Director Dale Rowley, KC1LKI. He recalled an ice storm a few years ago that took down the power grid for a week. "We established an emergency shelter, but could not get the word to residents that the shelter was open. They couldn't watch TV, and their smartphone batteries were dead," he said.

Rowley's agency learned about emergency radio advisory stations and determined that they could be a solution. The RadioSAFE Wide Area Emergency Broadcast System is by [Information Station Specialists](#), which has provided a similar station for Dayton Hamvention visitors. The company developed a compact, center-loaded whip antenna with a small ground plane that will cover the mostly rural coastal county.

Brit Rothrock, AB1KI, and Robert Hoey, W1EBA, with the Waldo County Emergency Management Agency

are handling system planning and will install the new service at the county's tower site. The 530 kHz channel is designated exclusively for Travelers' Information Station (TIS) services. - *Thanks to Information Station Specialists*

More than 1 Million Contacts Logged during ARRL Field Day 2019

ARRL Contest Program Manager Paul Bourque, N1SFE, reports that nearly 1.1 million contacts were made during the 2019 ARRL Field Day - the most popular operating event in North America. Bourque reported the [2019 ARRL Field Day results](https://field-day.arrl.org/fdresults.php), (<https://field-day.arrl.org/fdresults.php>) which are available starting on page 64 of the [digital edition](#) (ARRL members only, ed.) of the December 2019 issue of *QST*. Bourque says in his article that more than 36,000 radio amateurs took part in ARRL Field Day 2019 across all 83 ARRL/Radio Amateurs of Canada sections, up slightly from the 35,250 reported last year. The total number of contacts was down by about 7% from 2018's 1.18 million contacts.

"This year, 3,113 entries were received from local clubs and emergency operations centers (EOCs), as well as individual portable, mobile, and home stations," Bourque wrote in *QST*. Most entries were in Class A - club or non-club groups of three or more.

Of the nearly 1.1 million contacts, approximately 46% were made on phone, and 456,000 (42%) of contacts were made on CW. The remaining 138,000+ (12%) of the contacts were made on digital modes, such as FT8 and RTTY.

"This is a substantial increase compared to 2018, when total QSOs on the digital modes numbered just over 56,000," Bourque reported. "With the last 2018 release of [WSJT-X](#) (which now supports Field Day exchanges), many participants made use of FT8's ability to communicate when band conditions weren't being cooperative."

Top 10 scores ranged between W3AO's Class 14A entry from Maryland-DC, with 32,356 points, to W1NVT's 14,876-point Class 2A entry from Vermont.

Bourque said that 95% of the 3,113 entries received came through the Field Day web applet.

"Not only is ARRL Field Day an opportunity to sharpen operating skills in temporary and portable locations, it's also an occasion to showcase amateur radio to the local community, with clubs often setting up in publicly accessible locations and interacting with non-hams," Bourque wrote.

[Soapbox comments](#) for Field Day 2019 are available on the ARRL website. ARRL Field Day 2020 will take place June 27-28. (ARRL News)

This space intentionally blank.

**COFFEE & DONUTS
EVERY THURSDAY MORNING**

8:00 A.M.
To
10:00 A.M.



**Community Mtg Rm
Silver Lake Mall
Coeur d'Alene**

**TALK-IN: 146.980, PL127.3
443.975, PL136.5**

Bring a Writing Instrument **Community Mtg Rm**
has the napkins for our breakfast table engineering!

Deadline for submitting articles, stories, reports, etc., is the 25th of each month for the following month's newsletter.

Kootenai Amateur Radio Society (KARS) MEMBERSHIP APPLICATION

One year membership Rates:

New Member: \$15.00 Renewal: \$15.00 Family Membership: \$23.00

Two year membership Rates:

New Member: \$28.00 Renewal: \$28.00 Family Membership: \$42.00

Lifetime membership:

Member: \$150.00

Information Update Only

Are You An ARRL Member? Yes / No (Please Circle One)

Callsign: _____ Class: _____ Expiration: _____

First Name: _____ M.I. _____ Last Name: _____

Nickname: _____

Address1: _____

Address2: _____

City: _____ State: _____ ZIP: _____ - _____

PHONE NUMBER: (____) _____

OK to publish phone number? Yes / No (Please Circle One)

EMAIL ADDRESS: _____

OK to publish Email address? Yes / No (Please Circle One)

Do you want to receive the emailed Newsletter? Yes / No (Please Circle One)

Note: If this is a family membership, (all members with the same address), please complete the following section for your family.

Name: _____ Call: _____ Class: _____

Name: _____ Call: _____ Class: _____

Name: _____ Call: _____ Class: _____

Name: _____ Call: _____ Class: _____

RETURN THIS FORM WITH YOUR DUES, (CASH OR CHECK), TO THE KARS TREASURER, OR, MAIL TO: KARS MEMBERSHIP, P.O. BOX 1765, Hayden, ID. 83835-1765.

(Office use only.)

Cash:	Check #:	Money Order:
Membership Card:	Roster:	Newsletter:

