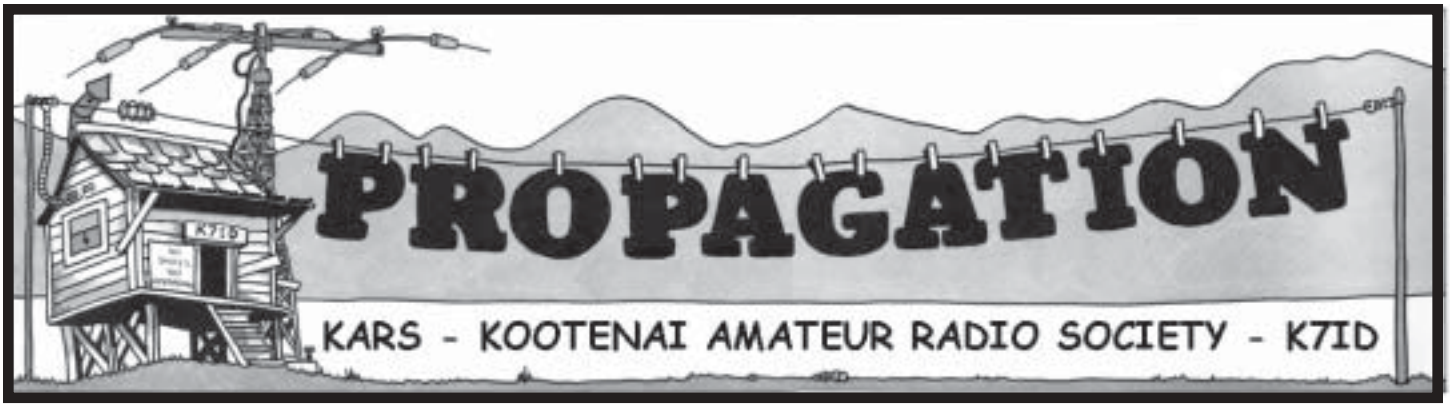


June 2017 (www.k7id.org) P.O. Box 1765 Hayden, ID 83835-1765

## REGULAR CLUB MEETINGS:

**Friday, June 9, 6:00 p.m.**
**Shriner's Event Center**
**1250 W. Lancaster**
**Hayden, Idaho**
**Topic: Hamfest Potluck**
**Presenter: No one**
**Refreshments: Everyone**

**VE Testing**
**Saturday, June 10, 9:30 a.m.**
**1250 W Lancaster**
**Hayden, Idaho**

**Monday, July 10, 7:00 p.m.**
**Search & Rescue Bldg.**
**10865 N. Ramsey Rd**
**Hayden, Idaho**
**Topic: Introduction to Linux**
**Presenter: ???**
**Refreshments: ???**

**VE Testing**
**Monday, July 10, 5:30 p.m.**
**10865 N. Ramsey Rd**
**Hayden, Idaho**

**Upcoming Events**

**KARS Hamfest**
**June 10, 7 a.m.-2 p.m.**

**ARRL Field Day**
**June 24-25**
**Majestic Park**
**Rathdrum, Idaho**

Letter From the President

**Dave Boss KF7YWR**
**boss@infinityusers.com**
**208.290.8590**

Here we are in June and this is our busy month, Hamfest just around the corner, Field Day in a few weeks. I have finally started on putting up a tower. I started digging in the rock borne soil today and already have sore muscles. Yes, I am out of shape, but the ground here consists mainly of rock. The topsoil is beautiful and black but probably 40% rock. The subsoil is mostly gravel and rock. Digging tools consist of a shovel, post hole diggers, a rock bar and then a come-along with rope to retrieve the large rocks you can't lift while standing on you head in the hole. There is only one spot on the ten acres that has topsoil three feet deep and that is the gravesite for our dogs that have passed on. Hopefully I can finish up with the first hole, just have three feet down and four to go and start with some concrete soon. Fingers Crossed.

**Hamfest June 10th**
**Shriner's Event Center Lancaster Rd Hayden**
**Friday:** Set-up at 5:00 pm, Potluck 6:00 pm Yummm!!!
**Saturday:** Doors open at 7:00, Breakfast 7:00-11:00 am, VE Testing starts at 9:30 am, Lunch 11:00 am-12:30 pm, and Spending starts at 7:00 am and runs to 2:00 pm, bring lots of cash. There will be the normal KARS goodie table run by our resident used KARS salesman Ed, AI7H, and, of course, the fellowship and edification of our fellow Hams. Be there or be off freq!!
Contact Info: Jim Petersen, AD0AZ, 208-627-6526; Adam Crippen, N7ISP, 509-789-0703; or Dave, KF7YWR, 208-290-8590 to help or for any questions.

**Field Day 2017 June 24th-25th**
This year's Field Day will be at Majestic Park in Rathdrum. The park is located east of Meyer Road, at the east end of Majestic Avenue it is just north of Lancaster. Lots of parking and lots of room for antennas, we just need to bring our own trees. The club tower is still ready to roll, and I will have my tower trailer as well. Be ready to hit the airwaves come the end of the month. Frank TenThy, KG7CUI and Rod Anderson, K7ZBE have put together some donated laptops for logging and we have some newly donated equipment for the Club use. Keep your fingers crossed for no thunder storms and no 100 degree heat.

**Coffee and Donuts or "where is the room this week?"**

For those of you who have been involved with the Coffee and Donuts on Thursday morning, we have been moved once again this is now the fifth location. Present location is now the old Christopher and Banks clothing store which is located across from JoAnn's Fabrics in the Silverlake Mall. Same time schedule, 8:00 am until 10:00 am at which point the music people chase us out. Just a dollar for Coffee and a Donut and the conversation is free. For those who have a difficult time walking, it is closer from the entrance next to Sear's.

Dave KF7YWR

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Kootenai Amateur Radio Society
April 2017 Meeting Minutes

The meeting was called to order at 7:03pm by Club President Dave Boss (KF7YWR). The Pledge of Allegiance was led by Gary Roth (KE7IAT).

VE License Testing:

| | | |
|---|---|---|
| David Winston | new license | Passed Technician |
| Thomas Neal | new license | Passed Technician |
| John Kreuziger | N7VXA | Passed Extra |
| H. Fredrickson | new license | Passed Technician |
| Ryan Lepagnol | N7RJL | Passed General |
| Richard Kasper | new license | Passed Technician |
| Thomas Yellich | new license | Passed Technician |
| Andrew Trexler | new license | Passed Technician |
| Fletcher Kibler | KI7LFL | Passed Extra |

Rick VanLandingham (KI7I) gave a quick presentation on the ARS Message Practice which will be held on May 22nd at 7pm local. All hams are welcome to participate. Additional information is available on the K7ID.ORG website by going to Calendar and clicking the AMP2017 link.

Area Garage Sale with Ham Stuff: May 19th and 20th beginning at 8am both days. 8735 East Parks in Athol.

Club Treasurer's Report:

April - Checking $2,979.11, Savings $2,176.43, Petty Cash $110.44, Total $6,068.66.

Monthly income consisted of: Saving Account $0.06; 50/50 Raffle $7.00, Membership $96.00

Monthly expenses consisted of: ARRL Liability Insurance Renewal $300.00, KARS Brochure printing $28.62, North Idaho State Fair Booth Registration $350.00

Motion to approve the Treasurer's Report was made by Mike Slothower (KG7KSJ), 2nd by Jim Peterson (AD0AZ), motion passed by member vote.

Club Presentation: Lightning Protection for Ham Radio by Ed Stuckey (KI7H)

KARS Hamfest: Hamfest will be held Saturday, June 10th at the Coeur d'Alene Shriners Building on Lancaster just west of Highway 95. Doors open at 7am. Setup and Potluck Dinner will be June 9th at 6pm. Swap tables are still available for $12 until May 31st and $15 after, contact Adam Crippen (N7ISP) at adam.crippen@hotmail.com to reserve your swap table. Volunteers are also needed for various positions and shifts, please contact Jim Peterson (AD0AZ) at jdpidus@yahoo.com to volunteer.

Meeting Minutes Report:
April minutes are accepted as posted in the newsletter. Motion to accept the minutes made by Jim Peterson (AD7AZ), 2nd by Mike Slothower (KG7KSJ), motion passed by member vote.

Upcoming Events:

KARS Hamsfest: will be Saturday June 10th. Please consider volunteering.
ARRL Field Day – June 24th and 25th. More details to come.

County Fair Booth: Fair is Wednesday, Aug 23rd to Sunday, Aug 27th.

Raffle Results:

| | | |
|---|---|---|
| 50/50 | $8.00 | Visitor (claimed) |
| Membership | $39.00 | Sherman Schrock, N7CZD (not claimed) |

Adam Crippen (N7ISP) made the motion to adjourn the meeting at 8:50pm, 2nd made by Jim Peterson (AD0AZ), motion passed by member vote and meeting was adjourned.

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Buildout of Nationwide First Responder Broadband Network Could Drive ARES Changes

The First Responder Network Authority (FirstNet) - a nationwide wireless broadband network for first responders - could change the complexion of how the Amateur Radio Emergency Service® (ARES®) functions to support communication for responders during disasters and emergencies. As an independent authority within the US Department of Commerce's National Telecommunication and Information Administration (NTIA), FirstNet's mission is to build out, deploy, and operate an interoperable nationwide broadband network dedicated to first responders. Ralph Haller, N4RH, the chairman of the National Public Safety Telecommunications Council (NPSTC), told ARRL that the advent of FirstNet "will likely be as significant as when public safety first began using radio."

"The nationwide network will be hardened, so that it will be more likely that many of today's public safety systems remain operational in emergencies," Haller said, pointing out that Amateur Radio should not expect to have access to FirstNet. He cautioned, "The endurance of Amateur Radio systems in disasters has been a big selling point in the past for incorporating amateur operators in emergency plans, but perhaps not so much in the future."

NPSTC is a federation of organizations that work toward improving public safety communication and interoperability, and ARRL has a seat on NPSTC's Governing Board. Haller predicted that Amateur Radio's role in emergencies will not disappear. "There is no substitute for eyes and ears on the ground in an emergency," he said, adding that radio amateurs "can and should continue to play an important part" in supporting emergency communication.

"Amateur operators can continue to provide valuable information to emergency operations centers in the recovery phase of disasters," he said. "Whether that intelligence gathering is reporting on storm clouds, power outages, or road closures, amateurs can help provide critical, real-time information about conditions over a vast area. While first responders are treating the injured or protecting life and property, the amateur community can concentrate on assessing the overall picture."

On March 30, FirstNet and the Commerce Department announced a 25-year partnership with AT&T as the primary contractor to make FirstNet a reality. "The ability to communicate seamlessly across jurisdictions is critical for law enforcement, fire, and emergency medical services (EMS) when securing large events or responding to emergencies and disasters," a Commerce Department news release said. "In those instances, networks can become overloaded and inaccessible, limiting responders' use of vital communication technologies, such as smartphones and applications dedicated to public safety services."

Public safety agencies already use commercial wireless networks, such as AT&T and Verizon, to supplement their own radio systems and networks, although such communication is not point to point. FirstNet is initially targeted primarily to provide video and data, with mission-critical voice communication at least a decade away. EMS is likely to become a heavy user of the network, which will employ voice command functions a la Siri or Alexa.

"Be sure the public safety organizations never forget how valuable the amateurs are!" — *NPSTC Chairman Ralph Haller, N4RH*

Inevitably there will be coverage gaps, and the development of "deployables" is critical. These devices can expand the network to areas it doesn't cover but where it may be needed for a specific incident. Deployables could include satellites - Inmarsat is a member of the AT&T team. Network security and encryption is a high priority. The Military Auxiliary Radio System (MARS) now uses encryption on its data nets.

While images in the form of digital Amateur Radio television (DATV) and a plethora of digital modes are available to ARES, FirstNet could nudge ARES to more quickly adopt a similar approach. A new generation of radio amateurs steeped in data, image, and video technology is likely to drive ARES to think beyond analog.

Haller advised that the Amateur Radio community should continue to work closely with public safety organizations at all levels to assure that they remain a part of emergency plans.

"The hype about broadband should not result in amateurs inadvertently being swept under the rug," Haller stressed. "Be sure the public safety organizations never forget how valuable the amateurs are!"

FirstNet will use spectrum at 700 MHz - no immediate threat to Amateur Radio allocations, although there is no guarantee that this won't change as the network approaches the shift to 5th generation (5G) technology. Amateur Radio has access to significant spectrum above 700 MHz.

The expectation is that within a couple of years, a nationwide "core" network will be ready to roll out, and the first public safety users will be on board. Some regional networks have been set up for proof-of-concept purposes and to work out wrinkles. - *Thanks to Mike Corey, KI1U, and Ralph Haller, N4RH* (ARRL News)

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FCC and OSHA Release Communications Tower Best Practices Guide

The FCC and OSHA have announced the release of a free publication, Comunications Tower Best Practices Guide. While aimed more at those who tend commercial communication towers, the guide offers guidance applicable to the Amateur Radio community and contractors working on Amateur Radio antenna support structures. The FCC said the guide was a result of two tower safety workshops.

"Recognizing the risks that tower employees face, OSHA and the FCC held a workshop on communication tower employee safety on October 14, 2014," the new guide explains. "During this workshop, industry stakeholders, along with employee safety advocates and the families of communication tower employees who had been killed on the job, gathered to discuss issues affecting the safety of communication tower employees."

A second workshop followed in February 2016, during which a panel of industry stakeholders and advocates discussed best practices that could reduce injuries and fatalities among tower workers. "This document is a collection of the best practices gathered from those workshops and from the discussions that continued beyond those events," the guide says.

Among other points, the guide emphasizes that all tower workers need "to have and use proper safety equipment at all times," and that, "no work should be done if proper safety equipment is unavailable or if the safety equipment available is not functioning properly."

The guide also notes that drones are being used today for tower inspection. "This technology has the potential to reduce unnecessary climbing and can avoid putting [tower workers] at risk," the guide says.

FCC Chairman Ajit Pai said that communications tower workers today face potential hazards that can prove fatal if not performed safely. "Every tower climber death is preventable," he stressed. (ARRL News)

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Family Reunion, Rasio Style

PAUL/ANCHOR: Our top story this week is about a ham radio rescue - one that didn't come in the aftermath of an earthquake, a cyclone or a flood. This rescue was a bit more personal. Here are the details from Amateur Radio Newsline's John Williams VK4JJW.

JOHN'S REPORT: Ham radio has been known to help bridge vast geographic distances, but what about huge gaps in personal memory? For one woman in India, who lost the whereabouts of her family and the ability to recall what happened, ham radio has provided a solution and ultimately a reunion - at a distance some 900 miles away.

The woman, known as Visalakshi, had been under psychiatric care in a West Bengal hospital for the four years since she was found wandering about, disoriented and separated from her family. After her memory began to gradually improve recently, she asked hospital administrators to help locate her relatives. The hospital reached out to the West Bengal Radio Club, led by Ambarish Nag Biswas and a team of nine hams connected with six of their colleagues in Tamil Nadu, where Visalakshi's home is located.

They connected via EchoLink during one of their regular 9:15 p.m. nets and passed along the information. Hams spread the word to other hams and eventually one of the administrative officers in the woman's village located her brother. At that point, the brother contacted the hospital and shortly thereafter, plans were being made for a reunion - and to bring her home.

For Amateur Radio Newsline, I'm John Williams VK4JJW.

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Our Sun's 11-Year Magnetic Cycle Destined to Disappear

The Sun's 11-year magnetic cycle appears to be ending, but that won't happen anytime soon. In a paper submitted on May 26 to the journal *Solar Physics*, two solar scientists are reinterpreting earlier evidence to hypothesize that the Sun's rotation rate and magnetic field

are in a transitional phase that could lead to lengthening solar cycles, with the cycle ultimately disappearing altogether between 800 million and 2.4 billion years from now. Travis S. Metcalfe and Jennifer van Saders propose the scenario in their paper "Magnetic Evolution and the Disappearance of Sun-like Activity Cycles."

"After decades of effort, the solar activity cycle is exceptionally well characterized, but it remains poorly understood," the authors say in the paper's abstract. "Pioneering work at the Mount Wilson Observatory demonstrated that other Sun-like stars also show regular activity cycles and suggested two possible relationships between the rotation rate and the length of the cycle. Neither of these relationships correctly describe the properties of the Sun, a peculiarity that demands explanation."

The authors cite stellar evidence for the shutdown of "magnetic braking" in stars similar to our Sun. "The new picture of rotational and magnetic evolution provides a framework for understanding some observational features of stellar activity cycles that have until now been mysterious," they said.

Metcalfe explained their observations through a recent Forbes magazine article. "Our previous discoveries identified an unexpected transition in the rotation and magnetism of middle-aged stars," Metcalfe is quoted in the article, "The Sun's Magnetic Dynamo Is Weakening" by Bruce Dorminey. "We now have direct evidence that the stellar dynamo - the mechanism inside stars that sustains their magnetic fields - actually shuts down during this transition."

In their paper, the authors said that future observations with the Las Cumbres Observatory global telescope network "promise to probe the onset and duration of the magnetic transition that drives the evolution and eventual disappearance of Sun-like activity cycles."

A 2016 paper Travis co-authored - "Stellar Evidence that the Solar Dynamo May Be in Transition," published in *The Astrophysical Journal Letters*, concluded, "The Sun still exhibits a dipole component to its global field, particularly near magnetic minimum, but the solar analogs also suggest a gradual concentration of the field into smaller spatial scales, leading to weakened magnetic braking,"

Metcalfe is listed on the paper as being associated with the Space Science Institute and the White Dwarf Research Corp, both in Boulder, Colorado. Van Saders is listed as being associated with the Observatories of the Carnegie Institution for Science in Pasadena, California, and the Department of Astrophysical Sciences at Princeton University in New Jersey. (ARRL News)

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Taiwan to Drop Amateur Radio Morse Code Requirement

According to an article in *Taipei Times*, the National Communications Commission (NCC) in Taiwan (the Republic of China) has proposed to abolish the Amateur Radio Morse code requirement and to permit operation on 432-440 MHz on a secondary basis, among other changes to the Amateur Radio rules there.

The NCC has said that a Morse requirement "should not hinder the development of Amateur Radio."

Although the NCC has approved the amendments, it must put them on public notice for 2 months and then make any changes it considers necessary, before they take effect.

The amended rules also will extend the term of Amateur Radio licenses from 5 to 10 years, although licensees must pass a test to qualify for the extension. NCC data show that 42,900 Amateur Radio licenses were issued in Taiwan between 2012 and 2016. (ARRL News)

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Missing Issues of Morsum Magnificat Now Available for Free Download

All copies of the English-language version of *Morsum Magnificat*, the Morse Magazine, are now available for free download from the website of Lynn Burlingame, N7CFO. This includes the 89 issues published from 1986 to 2004. Mike Feher, N4FS, was able to provide the missing editions, which Randy Cole, KN6W, scanned for viewing. The 89 issues of *Morsum Magnificat* contain more than 4,000 printed pages, covering all aspects of Morse telegraphy.

The newly available downloads also include "The Story of the Key: The Best of MM-1," by Louise Ramsey Moreau W3WRE, which includes a list of American telegraph instrument makers from 1837 to 1900, compiled by Roger Reinke. In addition, there's "Key WT 8 Amp Worldwide Survey: The Best of MM–2," by Tony Smith G4FAI, an updated and revised version of the 54-page booklet that provides information about the famous military Morse key, of which more than 100 versions were manufactured in six countries.

Also available: *The MM Q & Z Codebook*, (English), compiled by Rinus Hellemons, PA0BFN, and Dick Kraayveld, PA3ALM, publishers of the original Dutch version of *Morsum Magnificat*. The codebook lists all Q & Z codes in their original applications, including a copy of the original single-page Q-code guide of 1912.

All copies of *Morsum Magnificat* or associated publications downloaded from the N7CFO website are for personal use only and may not be downloaded or distributed for any commercial purpose. - *Thanks to Southgate Amateur Radio News via Tony Smith, G4FAI, co-founder of the English edition of* Morsum Magnificat (ARRL News)

NVIS Research Paper Available

A thorough and fully annotated discussion of Near Vertical Incidence Skywave (NVIS) is available in the research paper (https://link.springer.com/article/10.1007/s11235-017-0287-2), "Radio Communication via Near Vertical Incidence Skywave Propagation: An Overview," by Ben A. Witvliet, PE5B/5R8DS, and Rosa Ma Alsina-Pagès.

First investigated in the 1920s, NVIS propagation was rediscovered during World War II as "an essential means to establish communications in large war zones such as the D-Day invasion in Normandy," the paper notes, adding that the US Army subsequently sponsored a lot of NVIS field research, especially between 1966 and 1973. More recently, NVIS has become a popular means to enable close-in communication on Amateur Radio HF bands between 3 and 10 MHZ. NVIS can be used for radio communication in a large area (200-kilometer radius) without any intermediate manmade infrastructure, and it has been found to be especially suited for disaster relief communication, among other applications, according to the paper.

"A comprehensive overview of NVIS research is given, covering propagation, antennas, diversity, modulation, and coding," the *Abstract* explains. "Both the bigger picture and the important details are given, as well as the relation between them." As the paper describes it, in NVIS propagation, electromagnetic waves are sent nearly vertically toward the ionosphere, and, with appropriate frequency selection, these waves are reflected back to Earth. (ARRL News)

Maritime Mobile Service Net Relays Distress Call; Crew and Vessel Safe

The Maritime Mobile Service Network (MMSN) recently served as a critical communication link after the sport fishing vessel *Free Spirit* put out a "mayday" distress call on VHF marine channel 16 after running into trouble in Mexican waters. Brian Stipak, KF7QCX - skipper of the sailing vessel *Ubiquity* - heard the May 13 mayday, which advised that the *Free Spirit* was sinking quickly with four people on board and that all were abandoning ship. Unable to raise coastal stations on his vessel's VHF radio, Stipak went to the MMSN's 14.300 MHz frequency. Despite marginal band conditions, he was able to relay a position report to net control station Ken Porter, AC0ML, who had assistance from fellow NCS Scott Roberts, KK4ECR.

"They were taking on water and could not find the source, and were deploying their life raft," Stipak recounted on his website. "He clearly gave the coordinates for his position, which I plotted and saw [he] was about in the middle of the Sea of Cortez, about 46 nautical miles from me. My VHF communication with him was marginal." Stipak said that while he could barely hear the MMSN net control, the operator was able to copy the information. The S/V *Fathom* also heard the mayday and set a course for the distressed boat.

Roberts later learned via the Coast Guard that the *Free Spirit* had been towed to the port of San Carlos and that all on board were safe.

"It looks like a great resolution to a very intense situation," Stipak allowed afterward.

The MMSN is in its 50th year of operation. - *Thanks to Jeff Savasta, KB4JKL, MMSN assistant net manager* (ARRL News)


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:** | |

**KOOTENAI AMATEUR RADIO SOCIETY**
**P.O. Box 1765**
**Hayden, ID 83835-1765**

### DIRECTIONS TO KARS MEETING:

Take U.S. Highway 95 to Miles Avenue (Miles is about 1 mile North of Hayden Avenue). Instead of proceeding west from the corner of Miles and Ramsey, go north about ¼ mile, to the first building on the left (West) side of the road.

## 2017 CLUB OFFICERS

President: Dave Boss, KF7YWR
president@k7id.org

Vice-President: Lindy Bryant, KE0AZD
vicepresident@k7id.org

Exec. Director: Lenny Gemar, N7MOT
N7MOT@gemar.org

Secretary: Adam Crippen, N7ISP
secretary@k7id.org

Treasurer: Rod Anderson, K7ZBE
treasurer@k7id.org

Newsletter Editor: Gary Roth, KE7IAT
509 993-8468 ke7iat@comcast.net

Repeater Trustee: Larry Telles K6SPP

Repeater Tech: Dale DuRee, KE7VMN

Webmaster: Lenny Gemar, N7MOT
208 691-4735 N7MOT@gemar.org

Past President: Dave Boss, KF7YWR

### Notice

Propagation is published monthly by the Kootenai Amateur Radio Society (KARS). The club is located in Coeur d'Alene, Idaho and serves the North Idaho and the Spokane, Washington areas.

All opinions expressed in this newsletter are those of the individual contributers and not the radio club as a whole.

KARS operates a voice repeaters on 146.980 and 443.975, and a packet repeater on 145.510 Mhz.

Anyone interested in Amateur Radio is welcome to join. Dues are $15.00 (individual) and $23.00 for a family membership. Contact the Treasurer if you wish to join.

If you know of anyone interested in joining KARS, you can notify the newsletter editor as to that parties' email address. A copy of this newsletter will be sent with no obligation to join.

Material can be submitted for publication in Propagation. The deadline for articles, etc., is the 25th of each month for the following month's issue.