

# HAM CHATTER



**Amateur Radio**  
**"only fail-safe system"**  
**of communication**  
K4ZDH



Volume 53 Issue 7

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July 2019

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Email: hamchatter @ w4amc.com

## LightSail 2 Launches, Will Transmit CW Beacon

The Planetary Society's LightSail 2 CubeSat, launched on June 25, will transmit Morse code from space. LightSail is a citizen-funded project to send a



small spacecraft, propelled solely by sunlight, into Earth's orbit. The innovative satellite is due to be deployed on July 2 from Prox-1, a Georgia Tech student-built spacecraft the size of a small washing machine. Once deployed, LightSail 2 will automatically transmit a beacon packet every few seconds, which can be decoded into 238 lines of text telemetry describing the spacecraft's health and status, including everything from battery status to solar sail deployment motor state. Every 45 seconds, the spacecraft will transmit "LS2" on the spacecraft's frequency of 437.025 MHz, within the Amateur Radio 70-centimeter band.

LightSail 2 lifted off from Kennedy Space Center, Florida, carried by the SpaceX triple-booster Falcon Heavy rocket. The launcher also carried aloft two dozen spacecraft for the US Air Force STP-2 mission. Launch had been set to occur late on June 24, but SpaceX delayed the liftoff to make additional

ground system checks.

"During its ride to orbit, LightSail 2 was tucked safely inside its Prox-1 carrier spacecraft," The Planetary Society said post-launch. "The Falcon Heavy upper stage's payload stack released Prox-1 about an hour and 20 minutes after lift-off, at an altitude of roughly 720 kilometers (446 miles). Prox-1 will house LightSail 2 for one week, allowing time for other vehicles released into the same orbit to drift apart so each can be identified individually."

Bruce Betts, Planetary Society chief scientist and LightSail 2 program manager, said, "After years of hard work, we are ecstatic with the launch and looking forward to doing some solar sailing." Some 500 Planetary Society members and supporters were on hand at the Kennedy Space Center Apollo-Saturn V Center to watch their crowdfunded spacecraft take flight.

LightSail 2 team members will soon converge at Cal Poly San Luis Obispo in California, where the spacecraft's mission control is located. Once LightSail 2 is released from Prox-1, the team will spend several days checking out its systems before commanding its dual-sided solar panels to deploy. Following that, the spacecraft's solar sails will be deployed in approximately 2 weeks.

Two US Naval Academy student-built satellites carrying Amateur Radio payloads were on the launch. BRIC-Sat-2 (call sign USNAP1) will function as a 1.2/9.6 k APRS digipeater on 145.825 MHz. Telemetry will be trans-

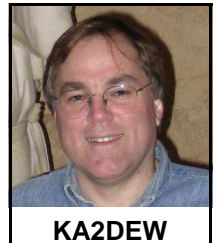
**\*\*\* New Location \*\*\***

### Next Meeting July 9, 2019

The Brightleaf Amateur Radio Club will have its next regular meeting at 7 PM, Tuesday, July 9, on Charles Blvd in Greenville. **The meeting location is: Room 1511 in ECU Greenville Center - 2200 Charles Blvd. Enter the building on the side closest to Charles Blvd. and immediately Go Left into the double doors. Inside here - Turn Right immediately into Room 1511 this is the Conference Room bearing Left. (This building is just North of the State Employees' Credit Union).**

Program will be a high level review of TARPEN (Terrestrial Amateur Radio Packet Network) by Tadd Torborg, KA2DEW, Raleigh. <http://tarpen.net>

All members, families and guests are invited to attend.



KA2DEW

### Board Meeting - July 30, 2019

The next board meeting will be Tuesday, July 30, at 7:00 PM at the Offices of Monday & Monday, (CPA), Suite D, East Victoria Court. All members invited.

mitted on 437.975 MHz. PSAT-2 also will operate on 145.825 MHz with APRS to voice and DTMF to voice/APRS, and it will carry a 28.120 MHz up/435.350 MHz down PSK31 transponder. An SSTV camera will transmit on the same downlink. — Thanks to The Planetary Society, Bob Bruninga, WB4APR, and AMSAT News Service - via arrl.org 06/26/2019

## President's Corner– Dave Wood, W4EJ

## Next VE Session



**Dave Wood, W4EJ**

Well Field Day has come and gone! We had a great turnout and I had the best time this year than I can ever remember. We will have the final figures at the next meeting, but if I heard correctly, we worked over 400 stations.

Several new antenna solutions were deployed this year such as the Array Solutions Six Pack and Rat Pack. We also used 450 ohm ladder line with 9/1 baluns to allow for antennas to be placed further apart without incurring high feedline losses. Shortly we will create an after action report so we can make improvements next year.

A reminder that our meeting location has changed to the ECU IPR facility at 2200 Charles Blvd this month. I understand this is an exceptional facility and it will be interesting to scope out the A/V equipment.

Come join us for the informal get together at Sam Jones BBQ at 6 pm before the meeting.  
73, *Dave, W4EJ*

Exams will be held on Tuesday, August 20, 2018 at VFW Post 7032 on 1108 Mumford Road in Greenville, NC. Exams will start promptly at 6:30 PM. For more info email Gary, **KK4GC**, at [w4amc.com](mailto:w4amc.com). (remove spaces) Study material at <http://www.arrl.org/coursestraining>. Walk-ins welcome.

Please bring the following required:

- Photo ID (drivers license)
- Original Amateur Radio License
- Copy of Amateur Radio License
- Original CSCE's
- Copy of CSCE
- Test fee is \$15.00 .
- Proof of Tech Plus if before 3/21/87 and doing paper upgrade to General.
- SS Number will be needed if you don't have an FRN number. \*

## Make: Magazine Going Dark

Maker Media, which published Make: magazine and produced Maker Faire, has laid off its staff and is terminating operations due to financial problems. Maker Media CEO and founder Dale Dougherty confirmed to TechCrunch that the company was ceasing operations and that it had laid off all 22 employees, citing financial difficulties with publishing a magazine and the lack of corporate sponsorship.

"I started this 15 years ago and it's always been a struggle as a business to make this work," Dougherty told TechCrunch. "Print publishing is not a great business for anybody, but it works...barely."

Launched in 2005, Make: became a major publication covering the "Maker Movement," which embraced do-it-yourself and tinkering, involving everything from 3D printing, electronics, robotics, metal and woodworking, and Amateur Radio, among other pursuits. The company launched its first Maker Faire in 2006 in San Mateo, California, and had licensed the name to hundreds of exhibitions around the world. <https://makezine.com/>

Dougherty said he hoped to keep the company's archives online and is working to keep Maker Faire from going under entirely. As of June 30, the Make: website was still active.

Dougherty said he hoped to keep the company's archives online and is working to keep Maker Faire from going under entirely. As of June 30, the Make: website was still active.

Go to <http://www.w4amc.com/barcinfo.html#VE> for more information.

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**Happy Birthday**

Brightleaf Amateur Radio Club members birthdays in **July**.

07-04 K1KK/HK1A David Sourdis  
 07-07 KG4CZW Bonnie Pulver  
 07-24 WA4MOK Bernie Nobles  
 07-29 W4YDY Dave Langley

Please let me know of any additions or corrections. [hamchatter@w4amc.com](mailto:hamchatter@w4amc.com)

## Well Wishes

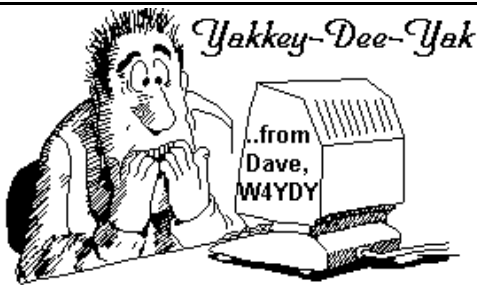
Thoughts and Prayers go out to the following:

John McCoy, K4KBB



Please inform Peter Van Houten, N4PVH, of any changes.

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**QRZ quiz!**

Do you want to get a little daily knowledge about Amateur Radio and have fun doing it. Each day, QRZ.COM has a ten question quiz about Amateur Radio. The questions cover, history, regulations, DX, electronics, AR receivers, transmitters, antennas, contests, county hunting and many other subjects that have a connection with Amateur Radio. They have four multiple choice an-

swers. After you sign in to QRZ.COM, you can answer the ten questions and it will tell you if you are correct or wrong. After all ten questions are answered, it will take you to a page with the correct answers.

Some typical questions are

1. In what year, was the first telegraph message sent?
2. When calibrating true north on your antenna rotator with a compass, in which state would you most likely not to have to worry about magnetic declination?
3. What is the normal offset of 2M repeaters?
4. Vacuum tubes operate by \_\_\_\_\_.
5. How many world time zones are there?
6. The most common material used as a resistor is:

7. What well-known country singer once held the call KD4WUJ?
8. If you are scanning the HF bands and find some strange noise around 14.070 MHz, which mode have you likely stumbled upon?
9. The experienced CW op will send which of the following to indicate a 599 signal report?
10. In what year did Art Collins start his radio company?  
See answers on page 4.

When QRZ started the daily quiz, they were giving away some nice equipment that ended in the fall of 2018. Each time you did the quiz, you were entered into the drawing. Top prize was the Icom IC-7610. They continued running the daily quiz after the prizes were awarded. Shucks! I thought I would win the 7610!!! - W4YDY

**ARRL Field Day Deemed a Hit; Entries Due by July 23!**

ARRL Field Day isn't over until participants take that final step of submitting their logs. By Tuesday, June 25, more than 1,300 had done so. The preferred method of submitting a Field Day entry is via the 2019 Field Day Entry Form on the ARRL website. This app, developed and supplied by Bruce Horn, WA7BNM, will ask for the call sign used (as well as the GOTA station call sign, if applicable), entry class, number of participants, list of operators, power source and multiplier, claimed bonus points, contact totals by band and mode, and GOTA station operators and contact totals. It also allows the attachment of supporting information for bonuses. In addition, all entries require a list of stations contacted by band and mode (a dupe sheet). A Cabrillo file is also acceptable. Log files or summary sheets alone sent to ARRL do not constitute a valid Field Day entry.

To confirm that your web entry has been received, visit the Field Day logs received page. If the entry indicates "Pending documents," upload the missing items for maximum scoring. Entries must be postmarked or submitted by Tuesday, July 23, 2019. Late entries cannot be accepted.

Field Day is typically a club ac-

tivity, and by the time the fourth weekend in June had arrived, nearly 1,600 groups had registered their locations.

The South Jersey Radio Association's K2AA operated in the 7A category. "This was a great effort by the SJRA members and guest operators, especially at the low point in the sunspot cycle and what seemed like not very good conditions," Bob Beyer, KE2D, reported on 3830scores.com. "Our digital station was the new star this year contributing 232 QSOs — a considerable improvement over other years."

W3AO, the well-known call sign of the National Press Radio Club in Maryland, had an unofficial contact count of 10,000 in 14 A category. "Propagation on 15 and especially 10 meters was somewhat subpar, same for 6 meters," said Frank Donovan, W3LPL. "FT8 has fundamentally changed the digital landscape; there was very limited RTTY and PSK31 activity. There was also very limited CW and SSB activity on 6 meters."

One operator who posted to the ARRL Field Day 2019 Facebook page was among those pointing out that propagation was difficult; while he was able to hear stations on the other side of the country and in the Caribbean, they could not hear him. He also reported high at-

mospheric noise. Nonetheless, others reported openings on 6, 10, and 15 meters, where propagation has been lacking in recent months for the most part.

Wade Harris, KF5IF, was part of the crew at the USS Batfish WW2SUB Field Day in Oklahoma. "Everyone seemed to have a good time, but it was a less than wonderful Field Day event, mainly due to storms that caused nothing less than noisy band conditions the whole time and severe lighting and high winds the caused everyone to disconnect and drop the antennas to stay safe several times," he said on the ARRL Field Day 2019 Facebook page. Less than a month ago, extreme flooding at the museum caused the World War II submarine to float down river after mooring lines broke free.

Donald Purnhagen, K4ILG, in Florida said his 10-year-old daughter, Donalyn, caught the bug operating the GOTA station at the Platinum Coast Amateur Radio Society FD site (W4MLB). "After some quick instructions, she was answering CQs, exchanging information, and logging contacts," he reported on the ARRL Field Day soapbox page." ... More at <http://www.arrl.org/news/arrl-field-day-deemed-a-hit-entries-due-by-july-23> - via [arrl.org](http://www.arrl.org) 06/26/2019

## BARC Monthly Minutes - June 2019

Meeting Called To Order at 7:01 pm.  
Recited Pledge of Allegiance.

### Introductions

Treasurer's report - Contact Treasurer for details.

Old Business: Met with ECU to discuss cardkey access for the VOA; Planning a meeting with Griffin Avin (Facilities Manager) to discuss requested facility changes at the VOA site (including but not limited to removing cables from the

roof);

Peter gave a presentation on the recent pre-Field Day BARC trailer cleanup and organization activities.

Minutes from May 2019 board meeting were read and accepted.

Dave Wood presented a case for the purchase of new Icom 7300 radios for the club. A motion to purchase a single 7300 was made and approved with one member opposed.

Discussed the use of eQSL and LoTW for logging of the clubs QSOs. Richard is the current club QSL manager.

Discussed Field Day activities. Byron will act as the Media Relations contact.

Meeting adjourned at 8:31.

Respectfully submitted,

*Gary Coriell, KK4GC*

## BARC Board Minutes - June 2019

Present at the meeting:

Dave Wood, **W4EJ**, Lou Demko, **W3LPR**, Bill Dawson, **WA4SLC**, Dave Langley, **W4YDY**, Dave Sourdis, b, Peter Van Houten, **N4PVH**.

4 board members, no quorum therefore no decisions made.

Last Meeting minutes read.

Good news: USMC made official request for BARC to do Tech class to Marines, 32 hours instruction then VE session. Dave Wood, **W4EJ**, will explore the possibility of a group going to Jacksonville (Camp LeJeune) for 5 days expenses paid. Possibly September.

Field Day after action report to be prepared by Gary, **KK4GC**, and Dave, **W4EJ**. Discussion of the "good, bad and the ugly" of FD was done with the purpose of information and make the next year better. The 6 pack worked well, transmission

lines to separate the antennas was a good idea. Put the CW station in a quiet location. Filters were swept by Dave, **W4EJ**, and repaired. Need to upgrade the filters to eliminate interference. Need to repair tribander Bernie, **WA4MOK**, has and possibly get another tower section for the tribander and rotor.

Radios: No hurry to purchase new radios. Dave, **W4EJ**, to check out radios to be sold and offer to membership or local hams that might want to purchase them. It will take a month to get this done. Will possibly put the used radios on Facebook, RARS, Ham Chatter and other outlets.

Need to schedule work day at Oakwood to put up the 3 band wire antenna. Dave, **W4EJ**, to look into what happened to the Oakwood tribander that was taken down.

Jeff Meyer, **W4DKW**, is moving

to Ohio so we wish him well but BARC needs a treasurer.

BARC Mailbox key #8387 passed to Dave Wood.

LOTW pass code to be given to Lou, **W4LPR**, to be able to submit BARC logs to LOTW.

Bill, **WA4SLC**, mentioned that a scout troop wants to do Jamboree on the Air in Simpson.

Bill, **WA4SLC**: **K4KLJ** has old equipment to be evaluated by Dave.

Dave, **W4EJ**, to check with N8UR drone photos to be used on the QSL card.

Meeting adjourned at 8:41 pm

Respectfully submitted,

*Peter Van Houten, N4PVH*  
Acting Secretary

## Pennsylvania Radio Amateur Dies in Tower Installation Mishap

A 62-year-old Union Dale, Pennsylvania, radio amateur — Leland L. "Lee" Parsons III, N3LPJ — was killed on June 14 during a tower installation project when a tower section he was working on collapsed off State Route 2069 in Gibson Township. Authorities said Parsons was apparently attempting to attach a guy wire to the bottom tower section when it went over. Parsons was an ARRL member and the president of the Susquehanna County Amateur Radio Club.

The online Wireless Estimator called the incident "a stark reminder of

the dangers present this weekend during Field Day." The article cited a 2009 Field Day tower collapse that claimed the life of 57-year-old Larry Prelog, KE4PM — an experienced climber — while he was installing an antenna. In that incident, two legs at the base of the tower buckled.

The Wireless Estimator article also recalled the death of the Reverend Paul Bittner, W0AIH, 84, a well-known radio amateur, contester, and Field Day participant, who lost his life last October when he fell from one of the towers at his extensive antenna farm in Wisconsin.

Parsons was among the founding

members of the Susquehanna County Amateur Radio Club. He also belonged to the Wayne County Amateur Radio Club. - via *arrl.org* 06/19/2019

Answers to questions on page 3

1. 1844
2. Mississippi
3. 600 KHz
4. Thermionic Emission
5. 38
6. Carbon mixtures
7. Patty Loveless
8. PSK
9. 5NN
10. 1931

## Radio Amateur to Lose License as Part of Enforcement Case Settlement



A New Jersey radio amateur, David S. Larsen Sr., WS2L, of Highland Park, will surrender his Amateur Extra-class license and pay a \$7,500 civil penalty as part of a Consent Decree with the FCC to settle an enforcement action. An FCC Enforcement Bureau Order released June 18 said Larsen violated the Communications Act of 1934 and Part 90 rules by operating on frequencies licensed to the Borough of Highland Park for public safety communication.

As part of the settlement, Larsen agrees that he will admit making the unauthorized transmissions, not engage in unauthorized use of a radio station, and surrender radios in his possession capable of transmitting on the town's public safety frequencies. If the Commission finds that Larsen has made unauthorized radio transmissions or otherwise violates the terms of the Consent Decree, he'll be subject to an additional \$32,500 civil penalty. The agreement stipulates that

Larsen may not apply for a new Amateur Radio license for 3 years.

The case stems from a May 2018 complaint of unauthorized transmissions on the Highland Park municipal radio system. FCC agents followed up with several visits to the town.

"Based on information provided by the complainant and direct observations by the Bureau's agents, the unauthorized transmissions consisted of brief, pre-recorded sounds (such as the sad trombone sound)," the FCC said in the Consent Decree. The FCC said individuals the agents interviewed identified Larsen — a former rescue squad volunteer — as the person who was likely responsible.

Responding to an FCC Letter of Inquiry, Larsen subsequently contacted the Enforcement Bureau and related that the unauthorized transmissions had ceased. Last fall, Larsen, responded to the inquiry through counsel to deny making the unauthorized transmissions. A short time after that, the unauthorized transmissions resumed, and the FCC resumed its

investigation, attempting to trace the source of the transmissions. Last March, agents used direction-finding equipment at a fixed location near the complainant's residence, while other agents conducted mobile direction finding of Larsen's vehicle in transit.

"The four agents observed Mr. Larsen pull over to the side of the road on the way to his home," the Consent Decree recounts. "The four Bureau agents observed (a) that during the brief stop, Mr. Larsen remained in his vehicle, (b) while stopped, a brief transmission consisting of the sad trombone sound emanated from the direction of Mr. Larsen's vehicle on a frequency licensed for use by the Highland Park Radio System, and (c) following the transmission of the sad trombone sound, Mr. Larsen resumed his drive to his residence."

The FCC said agents returned in April to observe Larsen repeat the earlier behavior, including a similar transmission emanating from Mr. Larsen's vehicle, according to the Decree. - *via arrl.org* 06/18/2019

## FCC Settles with Massachusetts Pirate Broadcaster



A f t e r suspects that they have violated the Act, filing a civil action and seeking the FCC may inspect the premises and seize any broadcasting equipment," an injunction to stop a church-related pirate radio station from operating in Worcester, Massachusetts, the US FCC news release said. If the FCC determines that "the defendants" have operated an unlicensed broadcasting station in violation of the settlement, they will be subject to a \$75,000 fine. The FCC received complaints, including one from a licensed broadcaster, that the pirate station was causing interference.

Attorney's Office this week reached a settlement with the station's operators, Vasco Oburoni and Christian Praise International Church. US Attorney Andrew E. Lelling and FCC Enforcement Bureau Chief Rosemary Harold announced the settlement on June 10. Oburoni and the church admitted that they had operated an FM broadcast station without a license. According to a consent decree filed on June 10 and subject to court approval, Oburoni and Christian Praise International Church agree not to do so in the future. They also agreed to surrender all of their broadcasting equipment.

"In the event the FCC reasonably

According to the signed consent decree, Vasco Oburoni and Christian Praise International Church admitted that they operated a radio broadcast station in Worcester, on 97.1 MHz, without an FCC license and previously had operated an unlicensed radio station on 102.3 MHz. The FCC had issued multiple warnings and issued a Forfeiture Order in the amount of \$15,000 against Oburoni. The FCC said Oburoni agreed to a payment plan but later began broadcasting again without a license on a different frequency. - *via arrl.org*

06/12/2019

## 13 Colonies Special Event to Mark 11th Anniversary this Year

The annual Original 13 Colonies Special Event will mark its 11th anniversary this year. The event gets under way on July 1 at 1300 UTC and runs through July 7 at 0400 UTC. Special event stations with 1 x 1 call signs will represent the original 13 US colonies, plus bonus stations K2Z, WM3PEN in Philadelphia and GB13COL in Durham, England.

Each special event station will have its own QRZ.com profile page. Participating stations try to contact all 13 Colony Stations plus the two bonus stations. Call signs and their respective states are K2A, New York; K2B, Virginia; K2C, Rhode Island; K2D, Connecticut; K2E, Delaware; K2F, Maryland; K2G, Georgia; K2H, Massachusetts; K2I, New Jersey; K2J, North Carolina; K2K, New Hampshire; K2L, South Carolina, and K2M, Pennsylvania.

Additional information is on the 13 Colonies website.

<http://www.13colonies.net/> - *via arrl.org* 06/26/2019

# Ham Ads

*Ham Ads* will be run, free of charge in Ham Chatter for three months for each renewal. Ads must be received by the last week of the month to be included in the following issue. Send ads to: **Ham Chatter, PO Box 8387, Greenville, NC 27835.**

## FOR SALE:

TYT 7800 VHF/UHF MOBILE RIG-\$150.00 With programming software, and remote Head kit.

Little Tarheel II 80 thru 6 Mobile HF antenna--\$235.00, With 32 inch whip/switch, and control cable Tripod and Antenna mount

Little Tarheel II 80 thru 6 Mobile HF Antenna--\$200.00, With 32 inch whip/switch, and control cable. Email Bernie Nobles, **WA4MOK** <wa4mok@embarqmail.com

## Classic Collins station FOR SALE

**KWM-2 Transceiver, Serial # 149** - Winged Emblem. Original box, 3 "KWM-2" Instruction books, dated Aug 1959, Oct 1959, Apr 1960. One "KWM-2 and KWM-2A" Instruction book dated Feb 1969. Collins Service bulletins and modification records, Collins cables, Set of spare tubes and a spare relay. Electro-Voice microphone and stand.



Heathkit Q Multiplier GD-125, used as peak and notch filter on KWM-2. \$550. One owner.

**512F-2 Power Supply, Serial # 2200** - Winged Emblem. Original box. Parts list and schematic in KWM-2 instruction books. Replaced tubes and all of the electrolytic capacitors in May 2018. One owner. \$250. Both: KWM-2 & PS, \$750.

**ROCK BOTTOM PRICES!** Internet prices **higher!**

**30L-1 PARTS:** New plate transformer in OEM box. \$200. New fan \$60. Email w4ydy@arrl.net

## BARC on FACEBOOK

<https://www.facebook.com/w4amc/>

## Facebook and Group details

<http://www.w4amc.com/barcnews.html#BARC>

## Commercial Ad Rates

1/8 page, Business Card Size

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## Over-the-Horizon Radars Continue to Plague Amateur Bands

The International Amateur Radio Union Region 1 Monitoring System (IARUMS) reports a “new kind” of over-the-horizon (OTH) radar on 20 meters. The intruding signal, which appears to be emanating from the Far East, was monitored during May on 14.140 – 14.150 MHz. Another Chinese wideband OTH radar has been showing up on 15 meters, with a signal 160 kHz wide. An Iranian radar has appeared on 10 meters, centered on 28.860 MHz, and is audible in Europe during sporadic-E conditions. The signal is about 46 kHz wide. The Russian OTH radar “Konteyner” OTH radar centered on 14.127 MHz continues to be observed, with a 12 kHz wide signal.

The so-called “Foghorn” OTH radar from China, first heard in 2017, and other OTH radars were spotted on several 20-meter frequencies. The Foghorn is a burst radar that has been heard on other bands, with the signal often jumping. The signal is frequency modulation on pulse (FMOP) with 66.66 sweeps-per-second bursts.

From the Commonwealth of Independent States (CIS) that emerged following the breakup of the Soviet Union, taxi traffic continues to appear on 10 meters, using FM. IARUMS said pirates in the Far East have been “abusing” 20 meters, transmitting on 14.000 MHz, using USB. IARUMS monitors also logged several fish net (driftnet) buoys between 28.000 and 28.500 MHz, transmitting a carrier followed by a CW identification. Codan selective callings (selcalls) believed to be in Oceania have been heard between 7.108 and 7.150 MHz. - *via arrl.org 06/14/2019*



## CY9C - St. Paul Island - July 31

St. Paul Island will be activated on July 31. We are very busy procuring items, planning logistics, and planning operations. We are very excited about not only the regular CW/SSB modes, but also, FT8, SAT, and 6M EME....Plus 6M SSB/CW.

Finalizing the details is a busy time and upfront cost are significant. Thus, if anyone is considering a donation, this would be a very helpful time for the team and can be submitted via the web-site. We list those who donate on the web site, plus, for those who donate, NO postage will be required for QSLs. Several methods for QSLs will be available: ClubLog, LoTW, Direct via **WA4DAN**. Your support is greatly appreciated, thank you. Website: <http://cy9c.com/index.html>

Murray, **WA4DAN**, Randy, N0TG

## Nature Article Suggest a “Grand Solar Minimum” Lies Ahead

A juried research paper in Nature, “Oscillations of the baseline of solar magnetic field and solar irradiance on a millennial timescale,” suggests that a “grand solar minimum” — similar to the legendary “Maunder Minimum” — is approaching, starting as early as next year and lasting for three solar cycles. That would be bad news for HF enthusiasts, who are already struggling with marginal conditions.

As the paper’s abstract explains, “Recently discovered long-term oscillations of the solar background magnetic field associated with double dynamo waves generated in inner and outer layers of the Sun indicate that the solar activity is heading in the next three decades (2019–2055) to a Modern grand minimum similar to Maunder one.”

As propagation buff and con-tester Frank Donovan, W3LPL, observed, “It’s very uncertain if this forecast is correct, but as usual the forecasts of the next solar cycle are all over the map. Let’s hope these scientists are wrong.” - *via arrl.org 06/26/2019*

## NETS VHF/UHF

- ◆BARC Net, Mondays, 2000 on 147.09 MHz, W4GDF Repeater.
- ◆Newport SkyWarn Tues. nights 2100E Grifton-146.685-88.5 tone
- ◆Newport-145.450..... IRLP 8561 links to Columbia
- ◆Jacksonville-147.000- 88.5 tone
- ◆Oriental-147.210-151.4 tone
- ◆444 Newport-444.825- 88.5 tone
- ◆Swansboro-146.760- 88.5 tone
- ◆Grantsboro-145 230 - 85.4 tone.
- ◆Kinston Amateur Radio Society Net, 1,3,4 Tuesdays, 2000 hrs. on 145.47 MHz., W4OIX repeater in Kinston.
- ◆Eastern North Carolina Traffic Net, Every night, 2030 on 146.685 MHz.
- ◆Wilson Amateur Radio Club Net, Thursdays @ 2000 on 146.76 MHz.
- ◆ Piedmont Coastal Traffic Net, Nightly 2030 on 146.88 MHz.
- ◆Carteret County ARS (CCARS) Emergency Net, Tuesdays, 1930 on the Newport 145.45 (-) MHz.
- ◆Coastal Emergency Linking Net, Wednesday, 2100 ET on Ahoskie 145.13, Buxton 145.15, Columbia 146.835 & 443.30, Elizabeth City 146.655, Greenville, 145.35, Hertford 147.33, Williamston 145.41 & 444.25

## HF

Tar Heel Emergency Communications Net on 3923 kHz Nightly 1930.

### NTS CW Nets

- ◆3.571 2000 hours, slow speed (5-8 wpm) Carolinas Slow Net
- ◆3.573 1900 hours, high speed (20wpm)
- ◆3.573 2200 hours, slow speed (12-14 wpm), South Carolina/North Carolina

### National Traffic System

Eastern North Carolina Traffic Net (ENCTN) 146.685 (146.085 in) Mhz (PL 88.5) 2030E

### Pitt County Repeater Association

<http://www.pcra.us/>

### BARC on FACEBOOK

<https://www.facebook.com/w4amc/>

### Facebook and Group details

<http://www.w4amc.com/barcnews.html#BARC>



# BARC CALENDAR OF EVENTS

July 9 ..... **Regular Meeting**  
 July 13/14 ..... IARU World Championship  
 July 20 ..... Swapfest, **Cary**  
 July 30 ..... **Board Meeting**  
 Aug 13 ..... **Regular Meeting**  
 Aug 20 ..... BARC **VE** Session  
 Aug 27 ..... **Board Meeting**  
 Aug 30/Sep 1 ..... Shelby Hamfest  
 Sep 10 ..... **Regular Meeting**  
 Sep 24 ..... **Board Meeting**  
 Sep 28/29 ..... CQ WW RTTY DX Contest  
 Oct 8 ..... **Regular Meeting**  
 Oct 13 ..... Maysville Hamfest  
 Oct 15 ..... BARC **VE** Session  
 Oct 26/27 ..... CQ WW SSB DX Contest  
 Oct 29 ..... **Board Meeting**

Nov 2/3 ..... ARRL CW Sweepstakes  
 Nov 12 ..... **Regular Meeting**  
 Nov 16/17 ..... ARRL SSB Sweepstakes  
 Nov 23/24 ..... CQ WW CW DX Contest  
 Nov 24 ..... Benson Hamfest  
 Nov 26 ..... **Board Meeting**  
 Dec 7 ..... ARRL 160 Meter Contest  
 Dec 10 ..... **BARC Christmas Party**  
 Dec 14 ..... ARRL 10 Meter Contest  
 Dec 17 ..... BARC **VE** Session  
 Dec 31? ..... **Board Meeting**

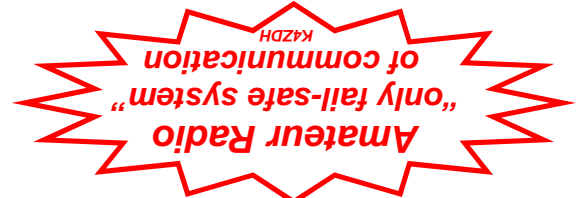
**Regular Meeting** - 2nd Tuesday @ 7:00 PM  
**Board Meeting** - Last Tuesday @ 7:00 PM

Contest Calendar: All the rules.  
<https://www.contestcalendar.com/weeklycont.php>

BARC 2 METER NET - MONDAY NIGHTS AT 8:00 PM - 147.09 W4GDF REPEATER - 131.8 Tone

BRIGHTLEAF AMATEUR RADIO CLUB STATIONS

**W 1 V O A - W 4 A M C - W 4 U H S**



Next Meeting  
July 9

**July 2019**

To:



**Ham Chatter**  
 Brightleaf Amateur Radio Club  
 PO Box 8387  
 Greenville, NC 27835