THE BRASS KEY

October 2023

A Publication of the Central Louisiana Amateur Radio Club

The BRASS KEY is published monthly as its official journal by the Central Louisiana Amateur Radio Club, P. O. Box 4652, Pineville, LA. 71361. CLARC yearly membership dues (including a subscription to the BRASS KEY), is $30. Editor/Publisher: Lisa Coleman, KW5LC; (318) 466-5623; clarcsec@yahoo.com. Members may submit texts for possible publication to the editor, Lisa Coleman, KW5LC, by hard copy at a meeting or by email at clarcsec@yahoo.com. Space and printing limitations may affect the appearance of any item submitted. Photo submissions should be sent in either TIFF, JPEG, or GIF formats, by email. All submissions must be turned in to the secretary by the third Tuesday of the month.

2023 CLARC Officers:

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Terry Bradshaw AG5H – 318-308-4342

The Prez Sez . . .

Words from our President, Kirk Garber, W5KKG

Members,

Happy fall everyone – sort of!

We have a great October 3rd meeting lined up! We will have former CLARC member and NASA planetary scientist Dr. Heidi Havilland, KK6SZW, of Marshall Space Flight Center who will give us a Zoom presentation on upcoming lunar missions, including NASA's Commercial Lunar Payload Services (CLPS), Artemis, and other space agencies. She will also highlight the radio science instruments flying to the lunar surface.

Don't forget folks, the nominations for the 2024 CLARC Board of Officers will take place at the October meeting as well! The nominating committee will present to the membership their nominations, but the membership may also make their own nominations from the floor at this meeting. Please consider your nominations for president, vice president, treasurer, secretary and member at large, if you wish to do so. At the end of the October 3rd meeting, all nominations will be closed and voting will take place at the November 7 meeting.

Also, we are looking for someone to chair the committee for the Annual Christmas Banquet. Please get in touch with me if you are interested.

73 and hope to see everyone there.

Kirk W5KKG
CLARC President

Prior Public Proceedings

Lisa Coleman, KW5LC , CLARC Secretary

CLARC September 5, 2023 General Meeting Minutes

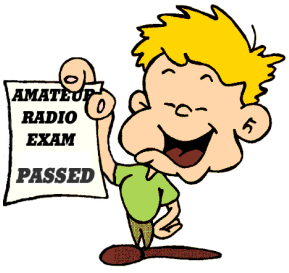
Those present: Susan Nelson, N5CLZ, Kyle Russell KJ5COH, Jeff Foley KI5HVK, Will Butterfield KI5IPJ, Luke Butterfield KI5RTS (Zoom), Mike Canady N5GJQ, Jim Walters AE5ZE, Chris Olivier KI5LOX, Terry Bradshaw N5GH, Jack Brossette W5ETL, Lisa Coleman KW5LC, Pauline Jordan K5PIQ, Houston Polson N5YS, Don Ward KI5AJV, David Nolan K5TS, Donald Broussard AI5MZ, Albert Castete KI5KJM, Stephen Peters N5EKC, Scott Wren KD5DFL, Stacey Sonneland KG5KGU, Dick Lundy WA5CAV, John Dempsey N5CM, Michael Callahan N5MJC, Perry Nelson N5PRN

Kyle Russell KJ5COH passed his Technician Class license exam this evening.

Thanks to Will Butterfield KI5IPJ for handling Zoom operations tonight. Our presentation was by Dave Norris K5UZ, ARRL Delta Division Director.

Health and Welfare:
Houston N5YS – Prayers for Paul Lawson whose cancer has recurred.
Steve N5EKC – his mother is now on hospice.

Due to the absence of the president, there was no business meeting portion of the meeting held.



Congratulations to Kyle Russell, KJ5COH, for passing his Technician Exam at our September meeting!

Welcome to Amateur Radio!

TREASURER'S REPORT

Stacey Sonneland, KG5KGU

Not available at time of publication.

Changes in Louisiana ARRL Section

Section Manager of the ARRL Louisiana Section John Mark Robertson, K5JMR, has stepped down. He has held this role since April 1, 2018. Robertson has been active in the Section and in Louisiana ARES. He held the Emergency Coordinator and both District and Section Emergency Coordinator positions before he assumed the role of Section Manager.

Matt Anderson, KD5KNZ, has been appointed to fill the remaining term, effective September 1, 2023. Anderson has also held several previous positions in leadership, including Assistant Section Emergency Coordinator and Assistant Section Manager of the Louisiana Section.

CLARC's Own Houston Polson, N5YS Running for Louisiana Section Manager!

Our own Houston Polson, N5YS (New Call!) will be running for the Louisiana ARRL Section Manager postion!

* Amateur Extra – licensed since 1984
* ARRL member since 2017
* ARRL and W5YI VE
* Active member of Central Louisiana ARC
* Past Treasurer and Member of the Board
* Retired USAF Colonel—served 30 years.

* Worked with and for FEMA – deploying for multiple hurricanes and other disasters. Taught other volunteer responders as needed.

As Section Manager, I want to build relationships with all our clubs and get them more involved with their local community, get more youth involved, and help all our hams become more “radio active.”
I believe in the 3 “Vs” -

Be Visible, Be Viable, Be Valuable.

NOTE to ARRL members from the Editor: An email reminder will be sent out prior to the January 2 – February 20, 2024 Section Manager elections.

New Hams – did you know?

The Volunteer Monitor Program – It pays to be a good operator!

The ARRL Volunteer Monitor program is a formal agreement between the FCC and ARRL. Volunteers trained and vetted by ARRL monitor the airwaves and collect evidence that can be used both to correct misconduct or recognize exemplary on-air operation. Cases of flagrant violations are referred to the FCC by ARRL for action in accordance with FCC guidelines.

This program re-energizes enforcement efforts in the amateur radio bands. It was originally proposed by the FCC following several FCC regional office closures and a reduction in field staff.

Under this program, the FCC gives enforcement priority to cases developed by the Volunteer Monitor program, without the delay of ARRL having to refer cases through the FCC online complaint process.

How To Report A Possible Violation to ARRL-

To report clear violations of FCC Part 97, particularly instances of unlicensed operation, repeated deliberate interference, and operation outside of a licensee’s authorized frequencies, send the report via email to Riley Hollingsworth (K4ZDH), ARRL Volunteer Monitor Administrator, at K4ZDH@arrl.net.

Important: include the following information in your report…

- Frequency (MHz) of incident:
- Time of incident (UTC):
- Date of incident:
- Call sign(s) of station(s) being reported:
  - If a repeater, call sign of repeater involved:
- Description of alleged incident being reported:
- Your full name (person submitting report)
- Your call sign:
- Your email address:
- Your phone number:

All reports will be acknowledged, reviewed, and the person submitting the report will receive a response as quickly as possible.

2023 Volunteer Monitor Program Report:

Volunteer Monitor Program Report

The Volunteer Monitor (VM) Program is a joint initiative between ARRL and the FCC to enhance compliance in the Amateur Radio Service. This is the July 2023 activity report of the VM Program.

♦Advisory notices were issued to Technician-class operators in Pennsylvania and Colorado for FT8 operation on 20 and 17 meters. Technicians have no data privileges on those bands.

♦An advisory notice was issued to an operator in Florida for obscenities and deliberate interference on 7.205 MHz.

♦An advisory notice was issued to an operator in West Virginia for operation consisting of interference and improperly wide signals on five separate dates. The operator was reminded that FCC rule 97.307(a) requires that no amateur station use more bandwidth that necessary for the information rate and emission type being transmitted.

♦An operator in Massachusetts received an advisory notice for operation too close to the band edge, 14.100.1 MHz, resulting in out-of-band operation.

♦An operator in California received an advisory notice for deliberate interference and "holding" a frequency on 20 meters.

♦The case of a Technician-class licensee in Tennessee continually ignoring advisory notices about FT8 operation on non-Technician frequencies is in preparation for FCC referral, which may include forfeiture (fine) or license revocation.

♦Good operator commendations were issued to operators in Texas and Indiana for exemplary operation and assistance to new licensees on 7.188 MHz, and to an operator in Arkansas for displaying exceptional skills and courtesy during his June VOTA activation.

♦The totals for VM monitoring during June 2023 were 2,014 hours on HF frequencies, and 1,919 hours on VHF frequencies and above, for a total of 3,933 hours. — *Thanks to Volunteer Program Administrator Riley Hollingsworth, K4ZDH*

FROM THE SHACK

Members are free to submit articles for “From the Shack!” We want to hear about your shack or other things of ham interest! Tell us about your operating conditions and submit your photos to Lisa, KW5LC, at clarcsec@yahoo.com

HF Propagation at the Equinox

Posted by Ward Silver, N0AX - Taken from
https://www.onallbands.com/hf-propagation-at-the-equinox/

All things being equal…

Here comes fall, the time of year when the northern hemisphere emerges from the summertime HF doldrums. At the same time, the southern hemisphere hams are finishing their winter and looking forward to spring on the HF bands. Right in the middle of this transition is September’s autumnal equinox (the opposite occurs at the vernal equinox in March).

What is special about this time of year on the HF bands? Let’s back up a bit. If you have been active during the summer, you know that daytime propagation on the higher HF bands (20 through 10 meters)—pretty good up through late spring—took a dive through the day. Why does it do that? Isn’t the northern hemisphere tipped toward the Sun in the summer? Shouldn’t that pep up the F regions for better long-distance skip?

While it’s true the northern ionosphere gets more solar ultraviolet (UV) during the summer days that increases ionization in the F region, extra UV also increases absorption in the lower D region. A signal making multiple hops just doesn’t get through! Summertime sporadic E (Es) propagation on 15, 12, and 10 meters helps keep things busy with “short skip” to stations 1,200 to 1,500 miles away.

Propagation on the lower bands (30 through 160 meters) in the summer suffers as well from the higher atmospheric noise levels caused by stormy weather. Meanwhile, our friends in the southern hemisphere are enjoying great wintertime conditions on the low bands. If you can hear them through the QRN (static), summer can be a productive season for low-band Dxing.

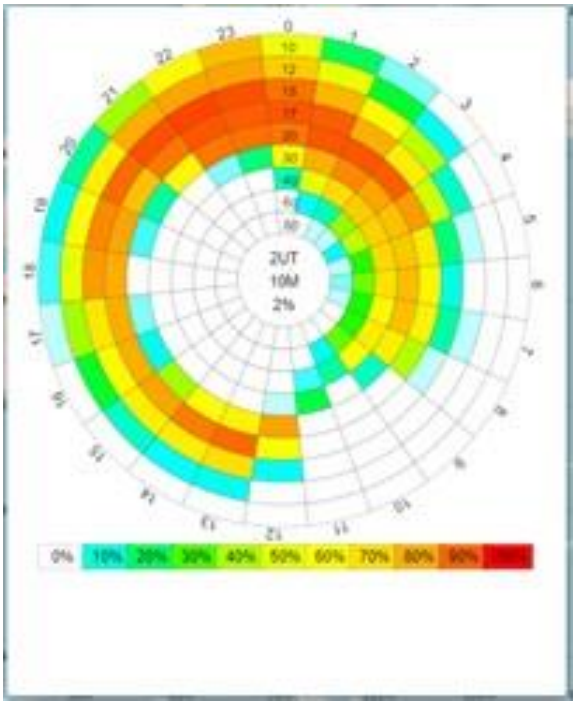
As we approach either the fall or spring equinox, sunlight begins to illuminate both north and south equally. Right at the equinox, the terminator between day and night is aligned exactly with the North and South Poles. Equal amounts of solar UV hitting the ionosphere means paths between the north and south hemispheres will open earlier and stay open longer. This gives stations in both hemispheres better chances for really long-distance F region propagation on the high bands. Thunderstorm season has passed, so the low bands are much more hospitable to DX contacts with stations exiting the summer months as well.

Let's take a look at some examples from the online propagation prediction website, VOACAP. The following maps were generated for current levels of sunspot activity (SSN = 16) and 20 meter dipoles were specified for both transmitting and receiving, one wavelength high for good low-angle performance. CW at 100 watts was the selected mode as a compromise between FT8 (higher signal-to-noise ratios or SNR) and SSB (lower SNR).

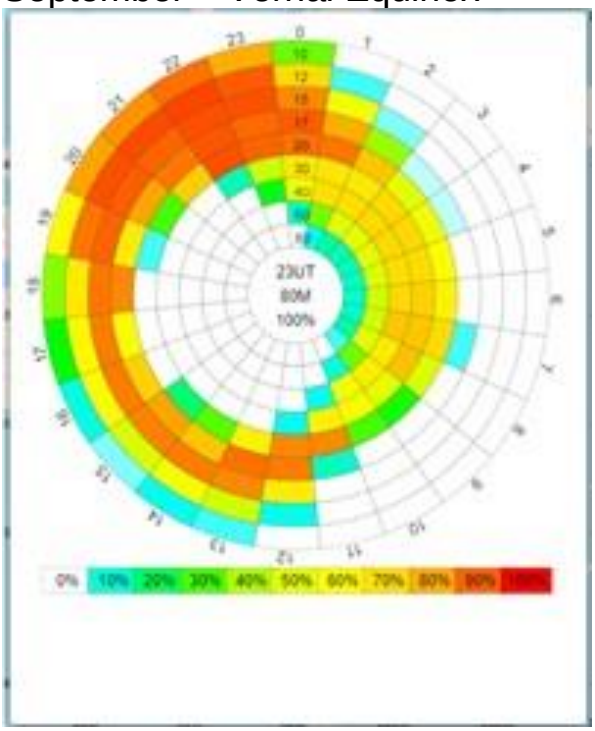
I used the "Prop Wheel" function to generate predictions for all of the HF bands between Buffalo, NY, and Santiago, Chile. This path between two populated areas is almost directly north-south. One set of predictions was generated at the summer solstice in June, another at the vernal equinox in September, and one more at the winter solstice in December.

The Prop Wheel colors show the probability of a band from 80 through 10 meters being open during each clock hour from 0000 to 2300 UTC. A color scale is below each chart. If you want to know what's happening on a particular path, this is a great way to summarize the predicted behavior!

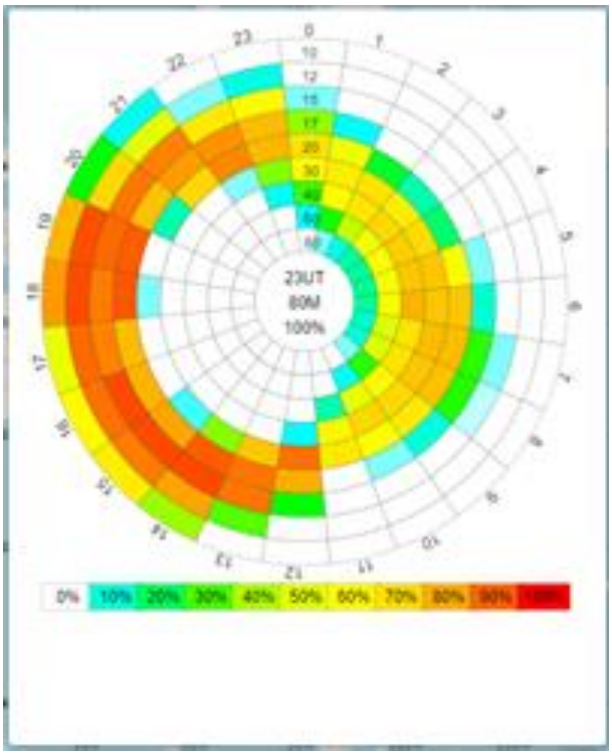
June – Summer Solstice



September – Vernal Equinox



December – Winter Solstice



Under the summer solstice's maximum sunlight, propagation favors 15, 17, and 20 meters in the late afternoon and evening. During these hours, the Sun is no longer shining directly on the path, but there is still enough ionization in the F region to support the two long hops required between these two locations. The path is mostly

closed between 0800 UTC and sunrise because the southern ionosphere doesn't get as much UV as in the north.

As the season changes to the September equinox, you can see the opening shift earlier in the day—not so much absorption—and it extends to the higher bands. 10 and 12 meters are great bands on a north-south path in the fall, and 15 meters is reliably open for 13 hours—all day! After dark, 20, 30, and 40 meters pick up the slack. There is probably going to be usable propagation on this path 24 hours a day on one band or another.

Finally, at the winter solstice in December, the strongest openings are in the morning until mid-afternoon, more closely aligned with UV radiation of the F region. 17 meters and 20 meters are doing most of the work through the day. The low bands are open more through the night on this path, although it is the southern hams who have to fight through the QRN to hear us in the north.

You don't have to analyze each path to get a general sense of what propagation is up to as the seasons change. Guided by The Shortwave Propagation Handbook propagation predictions for low-sunspot conditions, here's a summary of HF propagation at the equinox:

10, 12, 15 meters: Openings will be most frequent and strongest on 15 meters. 12 and then 10 meters will have short openings, mostly on north-south paths. Watch for signals from African and Australian stations after their sunrise.

17 and 20 meters: 20 meters really shines around the equinox and will feature openings to just about anywhere at some point throughout the day. 17 meters frequently opens as well during 20 meter propagation. Watch for gray-line propagation around sunrise and sunset.

30 and 40 meters: These bands will open to the east as sunset approaches and then stay open all night. Propagation will change to favor north-south paths through the night and then toward the west as sunrise approaches.

80 and 160 meters: Take advantage of the lower noise levels on both ends of the north-south paths. Watch for the best openings at local midnight and again near sunrise on either end of the path.

On all of the bands, try to be active around sunrise and sunset as the terminator approaches and then passes your location. Because it goes directly over the poles at the equinox, it is also close to the most distant locations from your station. Whatever gray-line enhancements exist, around the equinox is when they are most likely to occur. Don't hesitate to call CQ, as well, no matter what mode you use. You may be pleasantly surprised by a faraway DX station's answer!

There is one “gotcha” to the equinox, and that is the increased level of geomagnetic storminess around the equinox. This occurs because the Earth’s geomagnetic field, or GMF, is better aligned to interact with the interplanetary magnetic field, or IMF. Aligning the fields enables charged particles from the Sun to enter the Earth’s atmosphere and create a disturbance. The charged particles can come from a coronal mass ejection (CME) or from the solar wind.

The equinox is a good time to watch websites like NOAA’s Spaceweather Prediction Center or SolarHam by VE3EN for warnings of possible geomagnetic storms or other types of active conditions that affect HF propagation. Of course, these storms aren’t all bad news — tune on up to the VHF and UHF bands for enhanced propagation when they occur!

There is so much to learn about propagation, isn’t there? The ARRL’s Antenna Book has an extensive Propagation chapter. In QST and CQ you will find columns and articles on propagation. The ARRL’s weekly Propagation Bulletins by K7RA are a great way to keep up to date, and so is W3UR’s Daily DX, which features regular propagation updates by W3LPL.

This is a great illustration of what I mean when I explain to non-hams that “I can hear the world turning!” on the HF shortwave bands. Different bands open and close all day as the path is in daylight and then darkness. Throughout the year, those same bands have different characteristics that change with the seasons. And finally, the Sun is turning and churning too, and as more sunspots emerge in Cycle 25, these charts will look a lot different! Every path has its own characteristics, and then there are the differences between short- and long-path propagation. It can keep a ham busy since there is always something new to experience, no matter what mode or power or antenna you use.

NOTE REGARDING MEMBER CALL SIGN CHANGES:

Reminder to members: Please let us know if you change your call sign! We need that information for our records and the other members would like to know as well!

Houston Polson’s new call sign is: N5YS

UPcoming EVENTS

****October 3 – CLARC October Meeting.** Doors open at 5:30 for license exams and fellowship. Meeting to begin at 6:30 – new time, remember! Zoom presentation by former CLARC member Dr. Heidi Havilland KK6SZW of NASA's Marshal Spaceflight Center. Topic: Current Lunar Missions & Radio Science – We will discuss the upcoming lunar missions including NASA's Commercial Lunar Payload Services (CLPS), Artemis, and other space agencies. Then we highlight the radio science instruments flying to the lunar surface.

Amateur Radio License Exam Coordinator –Terry Bradshaw AG5H – 318-308-4342

ZOOM Link for all CLARC meetings: https://us02web.zoom.us/j/88070112230?pwd=bjE3bDI2dnZQSGtBWjFVeFNhbVcyQT09

**** October 7 – 8 – Slidell EOC Hamfest**, ARRL Louisiana State Convention

HAMFEST/CONVENTION Location: Slidell City Auditorium, 2056 Second Street, Slidell, LA 70458 Website: http://w5sla.net/hamfest-2022.htm

****October 20 – CLARC Fellowship Luncheon** – Time: 11:00, Location TBA

ZOOM Link for all CLARC meetings:
https://us02web.zoom.us/j/88070112230?pwd=bjE3bDI2dnZQSGtBWjFVeFNhbVcyQT09

ARRL 2023 SET October 21 -
The SET is ARRL's annual national emergency exercise designed to assess the skills and preparedness of Amateur Radio Emergency Service® (ARES®) volunteers, as well as those affiliated with other organizations involved in emergency and disaster responses. The SET is open to all radio amateurs and partner organizations, in addition to national, state, and local officials.

The 2023 Louisiana simulated emergency test will be held on October 21 from 09:00 to 11:00.

ARRL SET INFO - https://www.arrl.org/news/2023-set-exercise-to-test-skills-and-emergency-preparedness

SECTION PLANS - http://www.wpcde-911.com/

**** November 7** – CLARC November Meeting - Doors open at 5:30 for license exams and fellowship. Meeting to begin at 6:30 – new time, remember! Election of 2023 Board of Officers.
Amateur Radio License Exam Coordinator –Terry Bradshaw AG5H – 318-308-4342