

Brunswick Shores Amateur Radio Club

Club News

Words from the Past President

Congratulations to the new officers of 2024; President Robert Jesus K1MJJ, Vice President William (Bill) Sirginson N4PEN, Secretary Fred Carroll AJ4CN, Treasurer Ephraim Botnick WQ4N, Board Member David Pennell NP2MR. The first club meeting was January 10 our new meeting site in Supply, the BEMC Headquarters, 795 Ocean Hwy, Supply, NC 28462. There were lots of ideas for the year proposed which should make 2024 a Great Year.

Coming up immediately the last weekend in January was Winter Field Day. This was the first time the club participated in this event. The weather was perfect and operations were held at the Water Way Park in St. James.. Following that, the club is planning a Fox Hunt February 17 (or 18 rain date). Other ideas for fun activities included an excursion to Bald Head Island in April to activate Old Baldy, participation in the NC QSO Party February 25, ARRL VHF Contest (FM13) June 8-9, ARRL Field Day June 21-23, Club Picnic August, International Lighthouse Lightship Weekend, August 17-18 at either Old Baldy or Oak Island Lighthouse, ARRL VHF Contest (FM13) September 14-16, Scouts Jamboree On The Air October 19 and Holiday Party December 11.

There were other ideas about including Parks On The Air (POTA) as part of the NCQP, Fox Hunt or as an individual activation for the club.

I am looking forward to an exciting year. If you have ideas, let one of the club office know.

County Repeaters - K4JCS Coordinator

147.315 Primary Emergency ARES Repeater	+ Offset 118.8 Tone Analog FM
145.370 Alternate Emergency ARES Repeater	- Offset 88.5 Tone Digital/Analog FM
444.750 Linked to 147.317	+ Offset 118.8 Tone Analog FM
444.950 C4FM (Fusion)	+ Offset 88.5 Tone Currently Offline

Club Repeaters (Currently OFF the Air) - K4JCS Coordinator

147.225 BSARC Club VHF	+ Offset 118.8 Tone Analog FM
444.600 BSARC Club UHF (Portable Repeater)	+ Offset 88.5 Tone Analog FM

Club Officers

		Other Board Members
◆ President	Robert (Bob) Jesus K1MJJ	
◆ Vice President	William (Bill) Sirginson N4PEN	• Technical Curt Seaton K4JCS
◆ Secretary	Fred Carroll AJ4CN	• Past President George Fryer KI4KK
◆ Treasurer	Ephraim Botnick WQ4N	
◆ Board Member	David Pennell NP2MR	



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Special points of interest:

- Club Website www.n4gm.org
- Club Secretary
BSARC.SEC@gmail.com
- ARES Emergency Coordinator
ki4kk@twc.com
- BSARC Club Repeaters
147.225 & 444.600
- Echolink Node N4GM-R
- Club Call Sign N4GM

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Welcome New Members 2023

BSARC 2023 New Members

Last Name	First Name	Call Sign	Last Name	First Name	Call Sign
Babson	Denita	KM4SBK	Mates	Vincent	AF4RF
Babson	Joseph		McCord	JJ	N9TN
Billings	Lindsey	KD9OIT	Mills	Jerrel	KQ4JAM
Billings	Craig	KD9OFU	Nauhaus	Samuel	KC4ND
Boal	Robert	K6SLM	Nocita	Shawn	KJ7MKX
Boucino III	John	KQ4JNZ	Penick	Chris	K4PC
Brunjes Jr	Alfred	KM4TTK	Phillips	John	KD4VRD
Carty	Al	KQ4KMH	Rack	Dee	KQ4HQK
Conary	Brian	WD4EIQ	Renfree	Peter	K1YC
Craig	Mike		Ruzicka	Charles	KQ4MUC
Curson	Alan	WD9GMK	Seibel	Frank	WA3EML
Donovan	Jim	KC2YMI	Shumaker	Frank	KQ4MDB
Falk	Arthur J	KQ4KEG	Straub	Dianne	
Gainey Jr	H John	KO4PZG	Straub	Karl	WW4C
Gavrilovic	Obrad	KQ4GMT	Trip	Bob	KQ4NFR
Gilbert	Tony	N2TG	Webb	Dennis	K4ELW
J Martin	J Martin		Williams Jr	Clyde D	W4YQY
Jonesl	Herschel	KQ4LQL	Winters	Teren	KO4HWX
Knutson	James	KD0AV	Womble	Mike	KZ4RUN

- The club welcomes all of 38 of the new members that joined BSARC in 2023. To experience the camaraderie and fellowship available in the club, join one of the many activities the club has planned.
- As stated in the Articles of Formation, the club was formed “for the pleasure and benefits of association with others of kindred interests.” If you have an idea for an activity you want to pursue, we are here to help you. Don’t be a member who complains that things are not done correctly. If you have an idea, bring it forward and be willing to take leadership

Welcome New Members 2024

Name	Callsign	Level	Position	Location	Date Joined
Murray, Bill	KQ4MAX	Technician	Member	Wilmington, NC	2/10/2024
Cousins, Rob		None	Associate		1/30/2024
Braun, Peter	N1RRA	Advanced	Member	St James, NC	1/27/2024
Hager, Douglas	KQ4NXW	Technician	Associate	Bolivia, NC	1/27/2024
Sanchez, Jimi	KJ1MBO	General	Member	Wilmington, NC	1/25/2024
Freeman, Mary	KQ4NJZ	Technician	Member	Leland, NC	1/23/2024
Neal, Richard	KQ4NRF	Technician	Member	Wilmington, NC	1/13/2024

Field Day 2023

Field Day 2023 was a big leap in the BSARC Field Day activities. In the past, the club participated more as a social event. With renewed interest in operating, the club greatly improved in the club standings and ended up third in the State of North Carolina as a club operating 2A.

Special thanks go out to our GOTA operator, Ray who operated the GOTA station for many hours.

Gary, our Field Day Coordinator is looking for volunteers to be in an IT Group, Food Group, Bonus Points or Station Captain for 2024 Field Day.

nc4sgq@gmail.com



Winter Field Day 2024

Winter Field Day 2024 was a first for the club. Operations were held in the Water Way Park, St. James.

Special thanks go out to our cooks who provided the food.

Also, thanks to Gary NC4S, the Field Day Chairperson and all of the members who setup, operated and helped tear-down both for June and Winter Field Day.

OTHER PICTURES ARE ON THE CLUB WEBSITE:

www.n4gm.org





Brunswick County Emergency Services

Amateur Radio during emergencies in Brunswick County uses a combination of the ARRL Amateur Radio Emergency Services (ARES)®, and North Carolina Auxiliary Communications (Auxcomm). If you are interested in serving the county during an emergency, you start by applying to join the ARES® organization. If your application is accepted, you can continue to be credentialed to serve at a shelter or at the Emergency Operations Center (EOC) in Bolivia. You will be required to complete four Incident Command System (ICS) Courses; ICS-100, ICS-200, ICS-700 and ICS-800. These are online courses available through the FEMA NIMS website:

(<https://training.fema.gov/nims/>).

To become credentialed, you will be asked to allow a background check and complete a drug screening test. You will then be given a photo ID which will allow you to participate at the fullest level in Brunswick County. I

Once you have completed the ICS-100; 200, 700 and 800 courses, you will be invited to join the Auxcomm database and upload your certificates for verification. Auxcomm is the next step above ARES®. To be credentialed as an Auxcomm radio operator, you will continue training in additional skills for SHARES, Winlink, Viper, WebEOC, and multi-agency exercises. After taking the initial Auxcomm course, you will be issued a Task Book which, when completed, will be submitted for approval by FEMA and the State of North Carolina Auxcomm. As an Auxcomm Operator, you may be requested to deploy outside of Brunswick County and even possibly outside of North Carolina or the US.

Even if you do not want to complete the drug screening and background checks, you can still apply for ARES® membership and participate in training exercises, local events such as the Christmas Parade and also be an active SkyWarn observer during an actual emergency.

George Fryer, ki4kk@twc.com, serves as both the ARES® and Auxcomm coordinator for Brunswick County. The Assistant EC is Bill Sirginson N4PEN. Contact either of these coordinators for more information on Emergency Services in Brunswick County.



Holiday Party “Smoked”



Volunteer Examiners

The Brunswick Shores ARC has a team of Volunteer Examiners. Contact KI4KK or WQ4N for information

George B Fryer	KI4KK
Ephraim M Botnick	WQ4N
Robert B Jesus	K1MJJ
Eugene Costa	KD2RRP
Barry O Pfeil	K6RM
Robert N Seidel	ND2O
David Matthews Jr	K4DJM
Norman D Ward	KO4ZYP
Erin H Douna	KY4HL
Mark R Hudson	N1KFC
Michael C Rebok	W4SMF
Obrad Gavrilovic	KQ4GMT
Marion F Brown	KF4XY
Dave Pennell	NP2MR
Mark M Sergent	KA4EVR

Technician and General Classes

Fred Carroll AJ4CN offers a Technician Class and a General Class. The classes are 7 to 8 weeks usually held on a Saturday morning from 9-12. They are offered as Zoom classes and are recorded so if you are not able to attend a session, you can catch up using Zoom

The classes use the ARRL books and lesson plans.

Fred's classes are offered at no cost. They are followed by a BSARC VE Test Session the weekend after the last class.

To enroll in a class or get access to the recorded lessons, contact Fred aj4cn.x@gmail.com

Bald Head Island

One of the relaxed events the club does is make an annual excursion to Bald Head Island and activate 'Old Baldy' Lighthouse. This usually is planned the weekend following Easter.





Club Equipment and Resources

The club has use of a small building at the base of the 56th Street water tower on Oak Island. It also has use of the EMS Building in Calabash and currently is using the Brunswick Electric Membership Corporation headquarters on US 17 in Supply, NC for meetings. A large assortment of hardware, insulators, vacuum tubes, test equipment antennas and antenna analyzers are available for loan to full club members.

The club has an ICOM 706 MKiiG and a Kenwood TS-590 available for club members. Contact one of the club officers for availability.

From the President's Laptop

Welcome to the new BSARC newsletter. I hope you have as much fun reading this newsletter as I have had. Kudos to our President Emeritus, George KI4KK, for taking on this worthwhile endeavor.

We, the club, are starting the new year 2024 with many exciting, and interesting projects. I will let George enumerate and discuss the projects we will be participating in further down the newsletter.

None of these projects can get off the ground without the help of our wonderful membership. I have found that our club consists of knowledgeable, experienced, and passionate people who love Amateur Radio and who love to share their passion with like-minded folks. If you are looking for help with any one of the many facets of Amateur Radio, you have come to the right place, the Brunswick Shores Amateur Radio Club. Let us have a great year, Folks!!! Robert (Bob) Jesus—K1MJJ

Calabash Amateur Radio Society (CARS)

A group of dedicated Hams who live in Calabash and surrounding towns provide communication support to the Town of Calabash during severe weather incidents and fun events such as the Calabash Christmas Parade. They have organized as the Calabash Amateur Radio Society (CARS)

The CARS group meets on the first Monday and third Monday of each month at 1:00 PM in the EMS building located at 9031 Beach Drive SW, Calabash, NC 28467 (the same location as the BSARC meetings held in Calabash, across from ACE Hardware on NC Rt. 19).

The meetings discuss various things such as the condition and maintenance of the Calabash EOC equipment, training on radio equipment and applications, site antenna maintenance and planning for upcoming Calabash events. Our members also conduct training exercises using Winlink, SHARES and voice communications. For more information on the CARS group please visit our website (KQ4ETM) hosted on QRZ.com and/or contact David Sippel (N3CKI), Karl Bennet (K5ARL) or Bob Jesus (K1MJJ). Our contact information will be found on the QRZ.com website.



4th of July Parade—Southport

The Brunswick Shores ARC supports the July 4th Festival in Southport, NC. Operators are stationed along the parade route at designated checkpoints and the county Emergency Communications Vehicle is used for Net Control. Following the parade, the club also supports the Southport Police for traffic control after the evening fireworks.



Club Website

The club maintains a website WWW.N4GM.ORG. The Webmaster is Dave Lippincott, KM4EMR. If you have comments or find errors in the website, contact Dave davidvl@sprynet.com

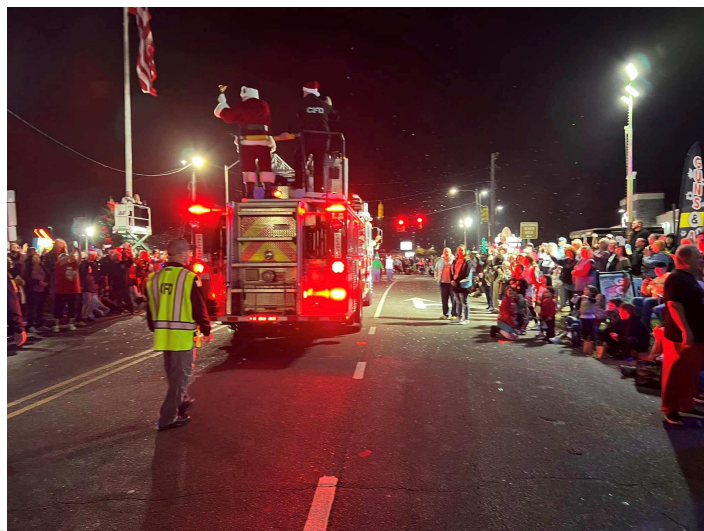
ARRL Membership

The club strongly urges members to join the ARRL. If you are not a member, you should consider joining as they do lobby for our privileges. If you are not a member and do decide to join, contact the club Treasures or use the club website to obtain a membership application. If you are already an ARRL member, use the club renewal process to renew your membership.

The club receives a substantial portion of the ARRL dues when you join or renew through the club.

Christmas Parade—Calabash

The Calabash Amateur Radio Society and Brunswick Shores Amateur Radio Club participate in the annual Christmas parade in Calabash, NC the first Friday in December. This event uses the Incident Command System(ICS) and is a credited ARES and AuxComm training exercise in addition to valuable support for the parade.



Hamfests

The club supports local and regional hamfests. In 2023 the club had tables at Charlotte, Raleigh, Dayton, Shelby, Fayetteville, Aiken and Benson.

2024 Schedule:

- Mar 8-9 Charlotte Hamfest
- Apr 6 Raleigh Rarsfest
- May 17-19 Dayton
- Aug 10 Fayetteville CFARS
- Aug 30-31 Shelby Hamfest
- Nov 17 Benson JARSfest

If you are interested helping with the club tables at a hamfest, contact one of the club officers or George ki4kk.



Tee Time—Breakfast Wednesday 8:00 AM Shallotte, NC



A large group meets Wednesday morning for breakfast at the Tee Time Café in Shallotte. The restaurant offers a Buffet or order from their menu.

Club business is often discussed along with other interesting things going on in the world of Amateur Radio.

Join us:

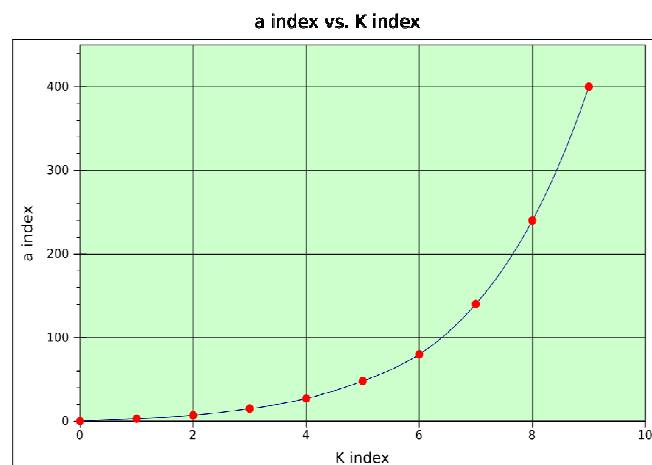
126 Holden Beach Road
Shallotte, NC 28470

Solar Cycle 25—What's With The F' n K, A?

We know that our Sun does not always emit the same amount of radiation. It has an approximate eleven year cycle with a low level of radiation followed by a peak in radiation then another low. Records go back to the first measured cycle which had a minimum in February 1775 and again in June 1766 or 11+ years. Then measurements were made by counting the number of Sun Spots. This didn't interest very many people since there were no observed effects other than possibly noting that the Northern Lights were more active with the higher number of Sun Spots. Later, with the discovery of how to use radio, we began to see a correlation between propagation and Sun Spot activity.

Today, we not only count the number of Sun Spots but actually measure the radiation coming from the Sun. Three of these numbers are often used by hams F—K and A:

- **Solar Flux F**—This is a measurement of Radio Noise received at a frequency of 2800 MHz and is the basic indicator of solar activity used to determine the amount of radiation being received by the Earth from the Sun. It is measured in Solar Flux Units (SFU) at the Radio Observatory in British Columbia, CA. Solar Flux is closely related to the amount of ionization in the F2 region and gives a good indication of conditions for long-distance communications. This value can vary from 50 to 300. Low values mean the Maximum Usable Frequency will be low and conditions not very good, especially at on the higher HF bands.
- **Geomagnetic Storms** - A geomagnetic storm is a major disturbance of the Earth's magnetosphere that occurs when the radiation from the Sun (Solar Wind) creates ionization of the various layers in the ionosphere. The solar wind can deliver a billion ton of plasma to the Earth's atmosphere. Two indices are used for measurement.
 - **K Index** —The K index gives an indication of the fluctuations and disturbance to the ionosphere. The K is measured with a magnetometer and describes the magnetic disturbance measured at observatories around the world at three hour intervals compared to a "quiet day curve" for that particular observatory. The K index is measured on a more or less logarithmic scale. Being logarithmic, averages and means cannot be used to give a longer range view of the state of the Earth's magnetic field.
 - **A Index**—The A Index is used to better express conditions. The graph shows the relationship between K and A. At each three hour interval, the K Index is converted to the A Index (Table 1). The eight A Index values collected at the three hour intervals are averaged to produce the daily A Index. This value can vary up to values around 100 but during very severe geomagnetic storms, it can reach values up to 200 or more. The A Index varies from observatory to observatory as the Magnetic Field disturbances can be local, therefore a value A_p is an average of the global A Index values published for the world.





Solar Cycle 25 Continued

Table 1 gives a summary of conditions for different K and A Indices. Although geomagnetic and ionospheric storms are interrelated, it is worth noting that they are different. A geomagnetic storm is a disturbance of the Earth’s magnetic field and an ionospheric storm is a disturbance of the ionosphere.

Software prediction software is available but by watching trends in F and K n A, while observing band conditions, you will learn to use the numbers without the software tools.

NOAA Space Weather Prediction Center

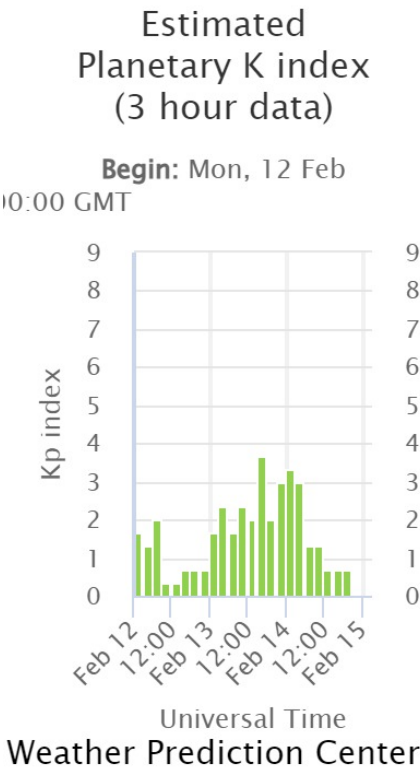
The NOAA Space Weather Prediction Center has a wealth of information on conditions, predictions and expected effects of Geomagnetic Storms.

<https://www.swpc.noaa.gov/>

<https://www.swpc.noaa.gov/noaa-scales-explanationSpace%20Weath>

Monday, Feb 12 had Estimated Planetary K Index (3 hour data)

A	K	Conditions
0	0	Quiet
2	0+	Quiet
3	1-	Quiet
4	1	Quiet to Unsettled
7	2	Unsettled
15	3	Active
27	4	Active
48	5	Minor Storm
80	6	Major Storm
132	7	Severe Storm
207	8	Very Major Storm
400	9	Very Major Storm



Kp < 5	Kp = 5 (G1)	Kp = 6 (G2)	Kp = 7 (G3)	Kp = 8, 9- (G4)	Kp = 9o (G5)
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First Issue

CLUB FCC Call Sign Custodian

Brunswick Shores ARC

Attn: JOHN C SEATON K4JCS

3264 Oceanic Bay Drive

Southport, NC 28461



The club offers Hats and Shirts with the club logo. Orders are taken starting in December and run through February to coincide with the annual membership dues. Iron-On Patches and Sticker Decals are available year round at breakfast or club meetings. See the club Treasurer.

You can also use the club LOGO to create coffee mugs and tumblers using online resources such as Walmart.



Club History



In 1985, the Brunswick County Amateur Radio Society, INC. was formed as a non-profit organization in Brunswick County, North Carolina. The corporation also had a club and supported the Brunswick County repeaters located at the Government Cen-

ter in Bolivia. When Alton Clemmons, a founding member, passed away in 1999, the corporation obtained his call K4PPD which was used for the repeaters and club activities. For reasons still not clear, the corporation disbanded the club in 2007.

When the club was disbanded, the Brunswick Shores Amateur Radio Club was started on April 30, 2007. Initially there were around 15 members of the club.

There was a group of hams who met at the Hardee's in Southport on Wednesdays around 8:30am for

breakfast. This group is considered the founders of the Brunswick Shores ARC which consisted of Carl (Bo) Bolton W2BO; Bill Dempsey KA1CQP, Owen Garner K1AF, Roy Marshall AC4RA, Larry Ratliffe KG4ZUM, Joe Mazzei KI4JM, Nancy Mazzei KF4GSL, and George Fryer KI4KK.

When the corporation stopped maintaining the repeaters, members of the new Brunswick Shores club took on this responsibility and currently work with the county to coordinate the county repeaters and club frequencies.