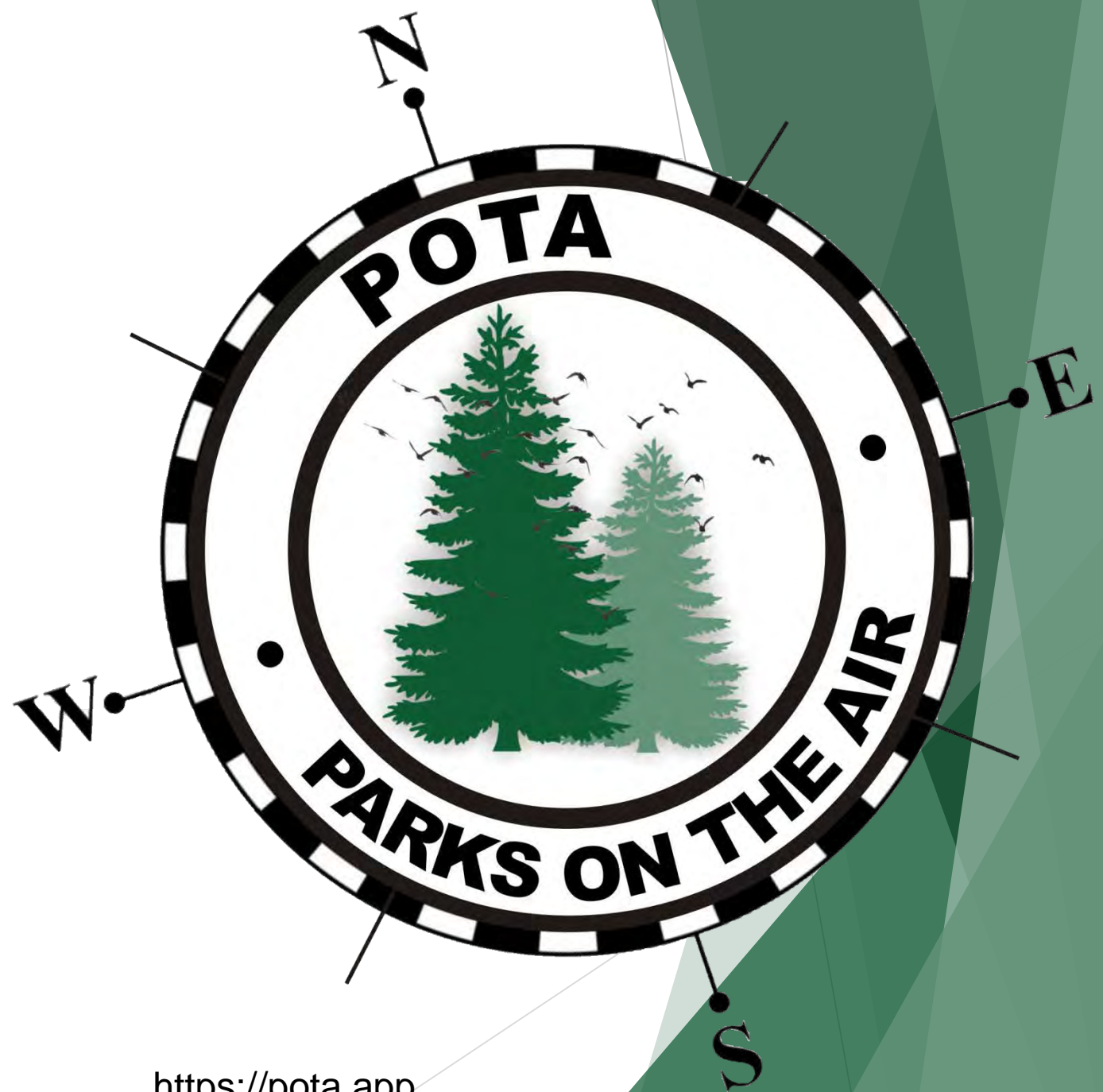


Parks On the Air



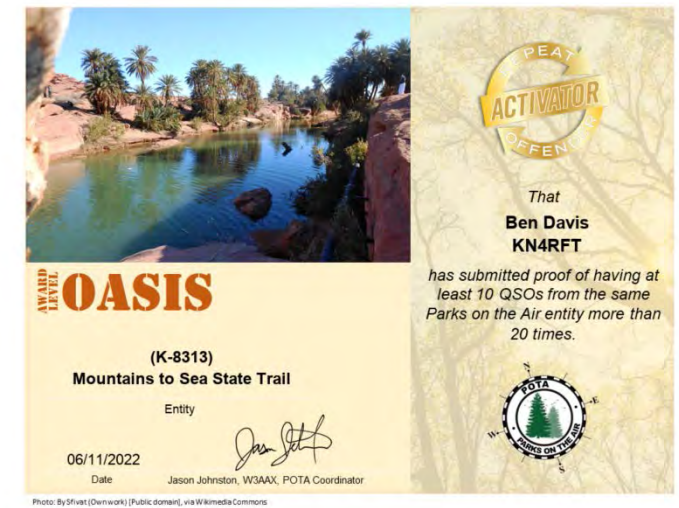
<https://parksontheair.com>

<https://pota.app>

A Brief Bio

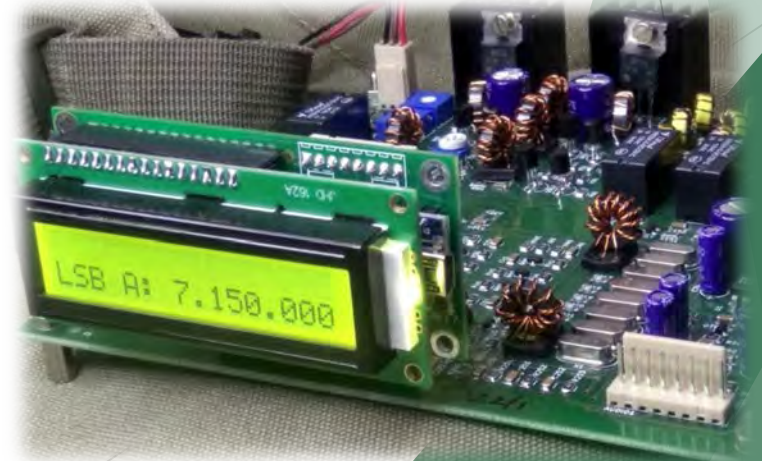
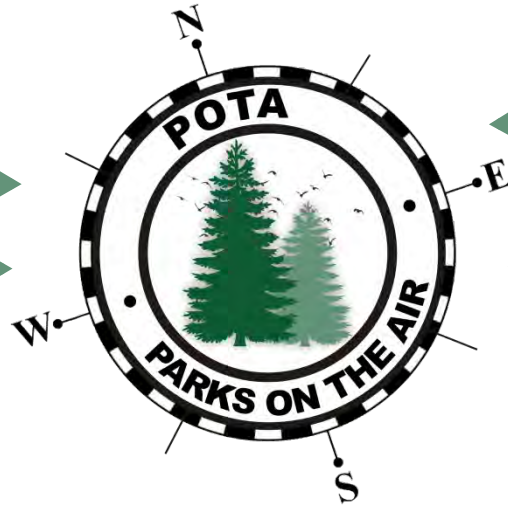


- ▶ Ben Davis – KN4RFT (Licensed Dec. 2018)
- ▶ QTH: Rolesville, North Carolina
- ▶ A member of the Raleigh Amateur Radio Society and the Franklin County Amateur Radio Club.
- ▶ First Parks on the Air Activation: 2020



National Parks
ON THE AIR
2016

DXPedititions





Why would you want to do this?

It's Fun!



And some things never get old:

"Thanks for the new one!"

"Thanks for activating!"

"Thanks for the park to park!"

Activating the Blue Ridge Parkway Information Center,
on K-3378 the Blue Ridge Parkway



Why would you want to do this?

It's Easy!

- ▶ You can hunt from your home shack. Being outside is optional!
- ▶ You can activate from your car with the mobile you already have



Junie
N1DUC

Hunting
station



Brian
K0ATZ
K-2775
Cherokee
Landing
State
Park,
Oklahoma



Why would you want to do this?

Conditions are Better!

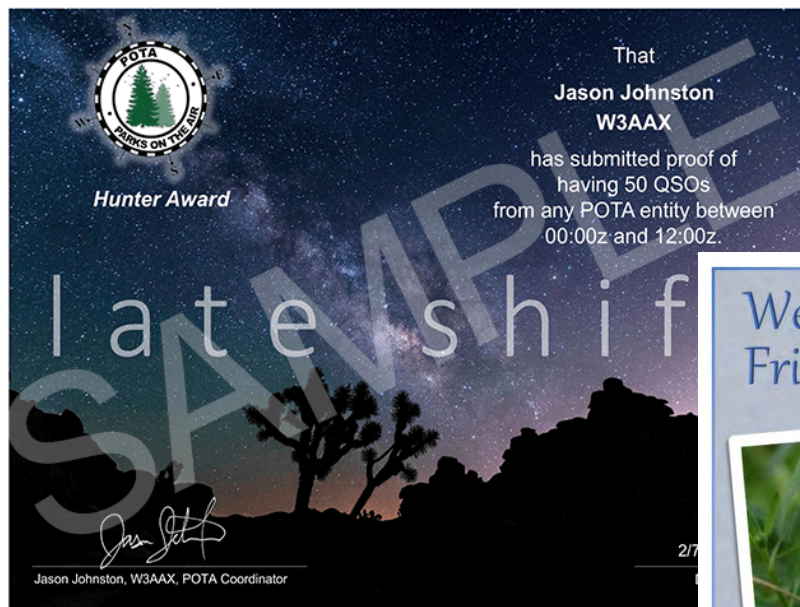
- ▶ Usually low noise
- ▶ Unique challenges
- ▶ The park is likely more picturesque than your shack wall
- ▶ A great opportunity to be an ambassador for amateur radio

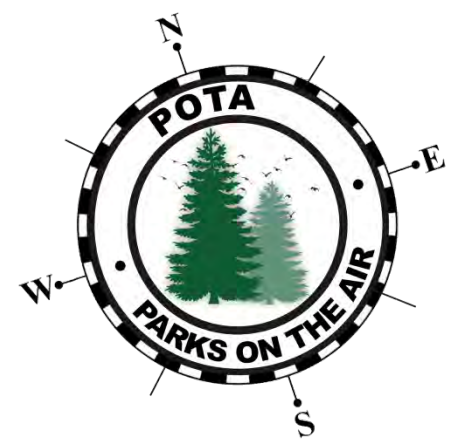




Why would you want to do this?

You Can Earn Awards!





How Does it Work?

Just a few terms you need to know

Activator

Running the station in the park



Tony W4BMX and I operating tailgate portable
From K-3841 Falls Lake

Hunter

Running a station anywhere





How Does it Work?

Good news: The rules are few and simple!

- ▶ Follow the law
- ▶ Follow the DX Code of Conduct
- ▶ Follow the Golden Rule

And if you're an Activator:

- ▶ You must register at <https://pota.app>
- ▶ You and your equipment must be in the park
- ▶ You need to submit ADIF logs after the activation is over





POTA

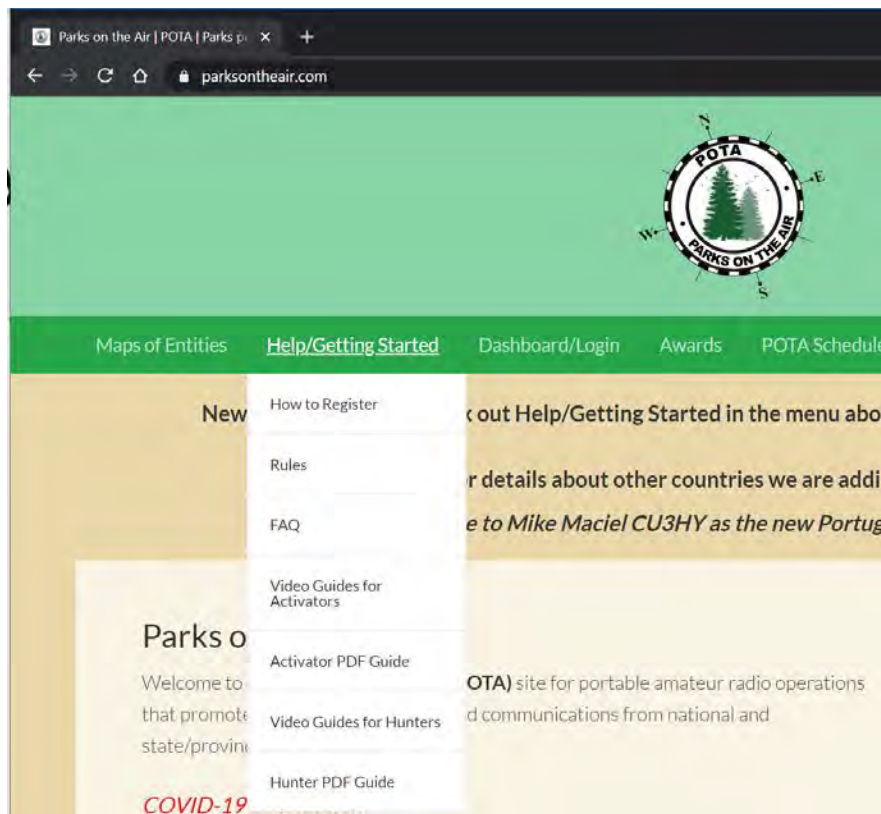
IS NOT A

CONTEST!

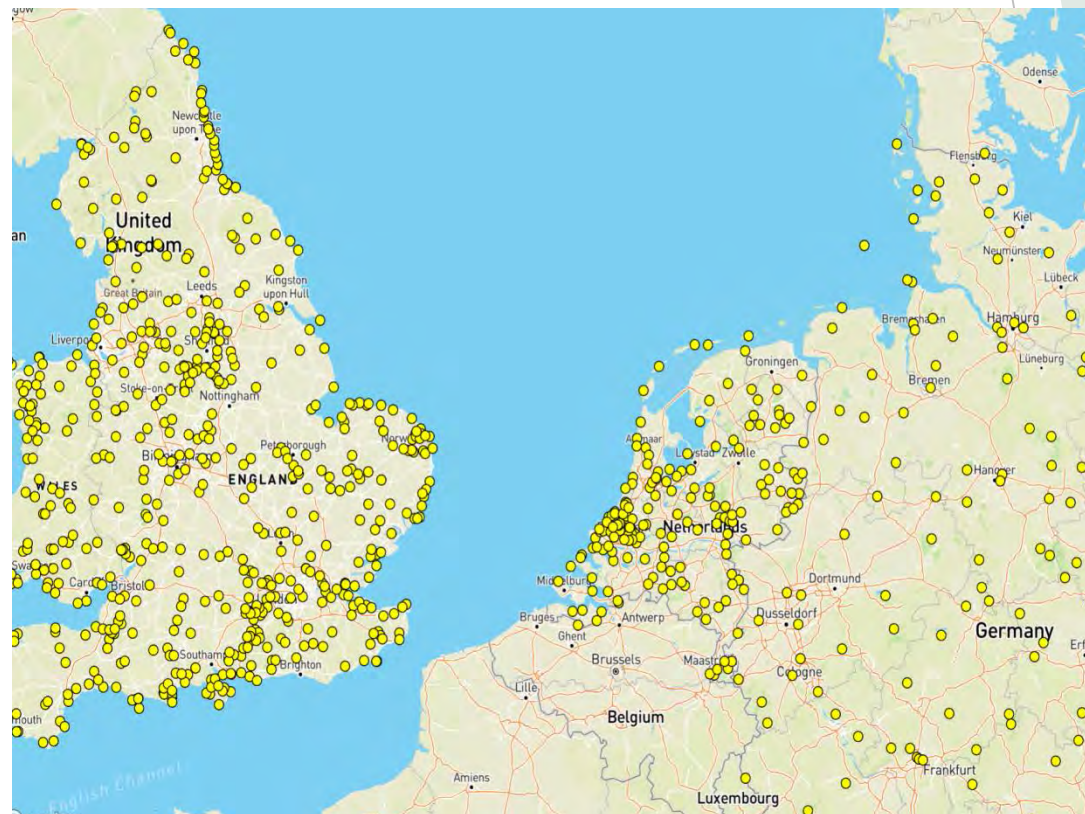


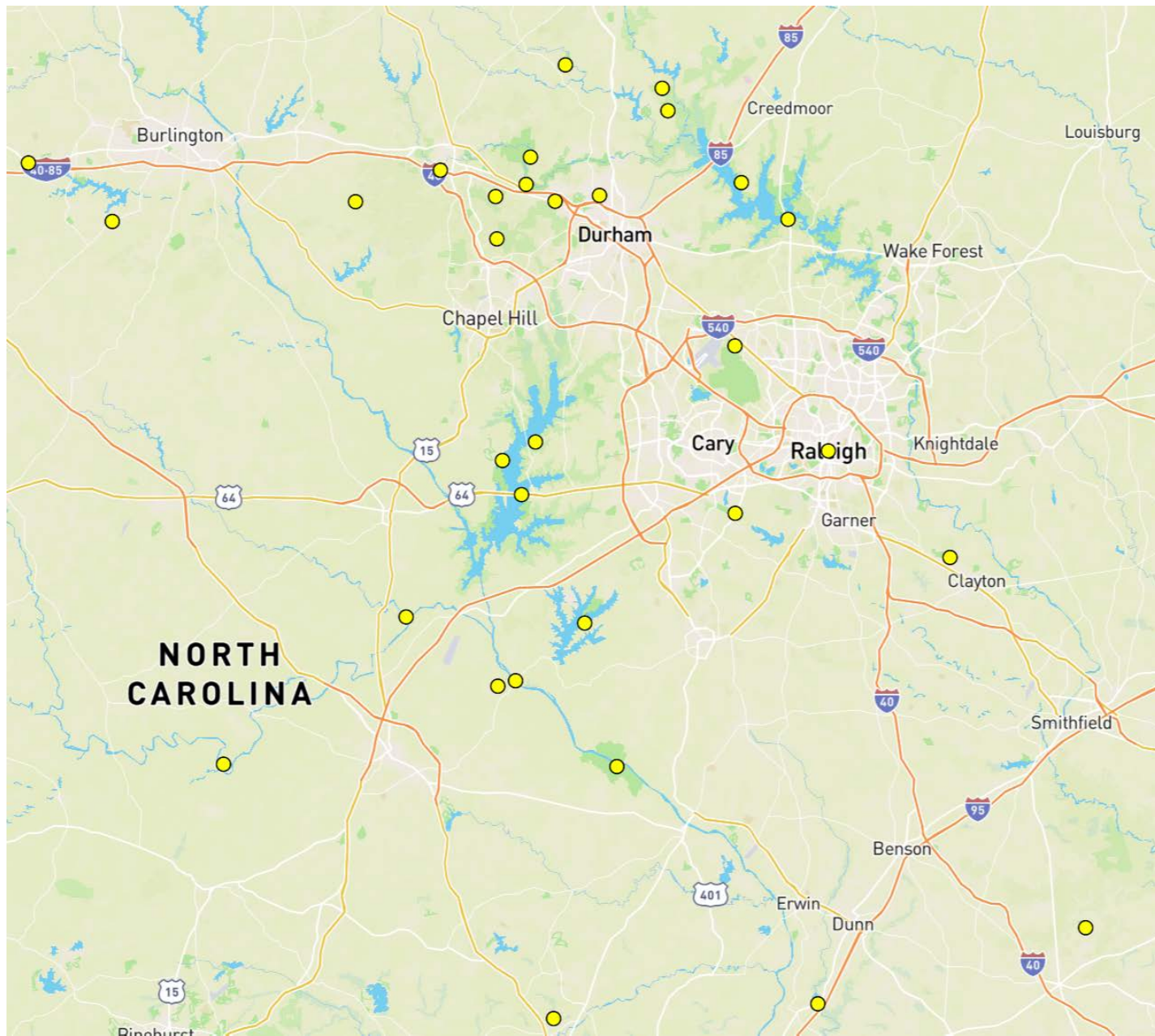
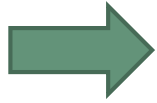
I Already Love It! Where do I go from here?

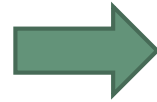
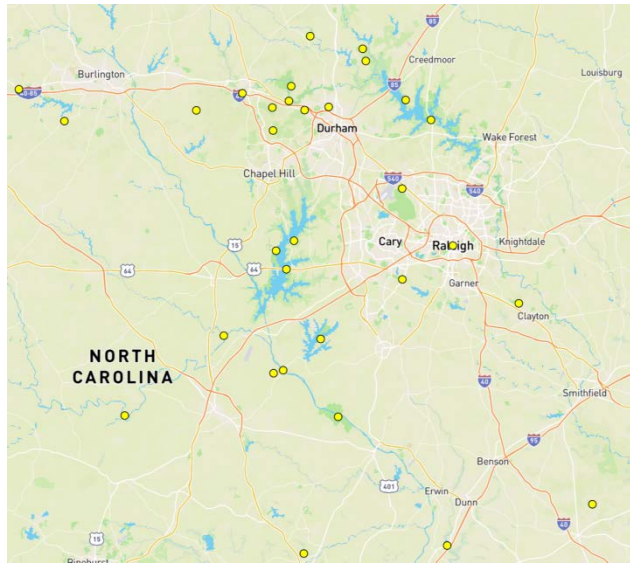
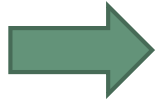
<https://parksontheair.com>



<https://pota.app>







Add Activation

Activator
N3NWW

Reference
K-1387

Start Date (UTC)
2021-09-16

Start Time (UTC)
00:00

End Date (UTC)
2021-09-16

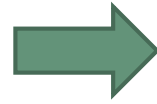
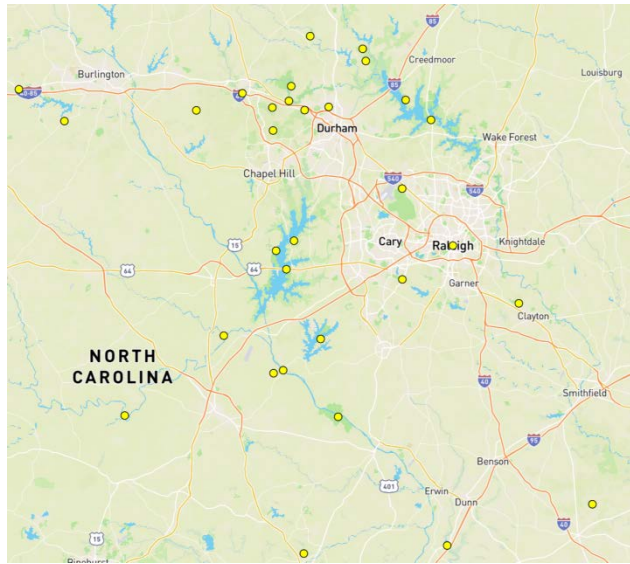
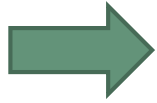
End Time (UTC)
23:55

Frequency
Several

Comments
|

CANCEL **SAVE**

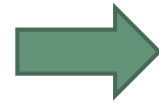
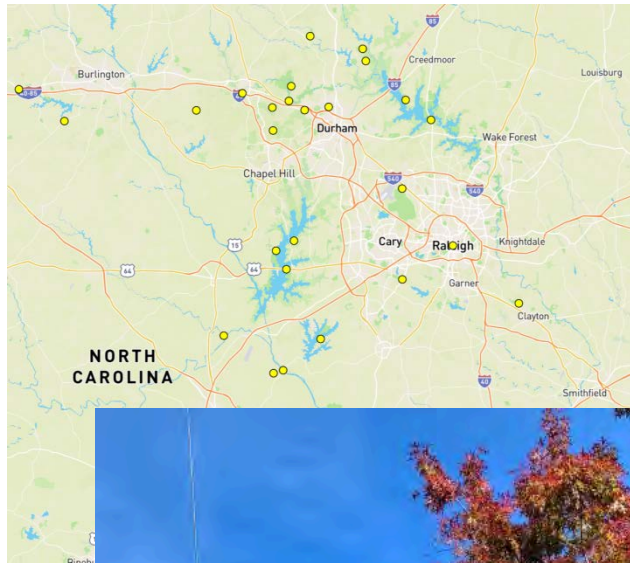
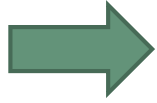




Add Activation

Activator N3NWV	Reference K-1387
Start Date (UTC) 2021-09-16	Start Time (UTC) 00:00
End Date (UTC) 2021-09-16	End Time (UTC) 23:55

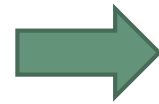
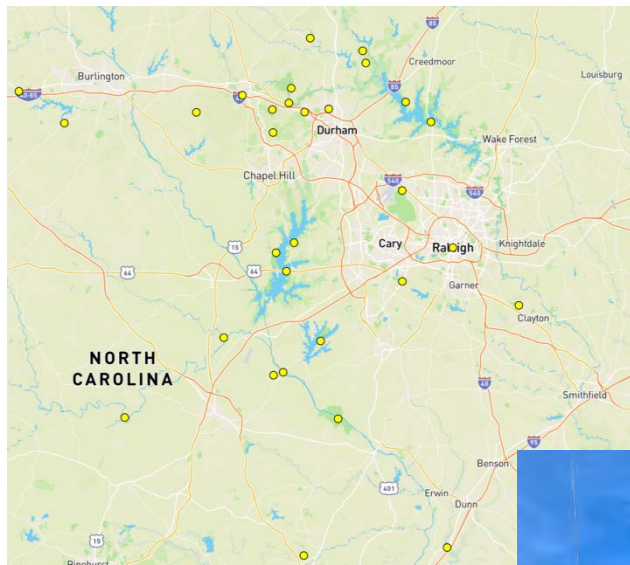
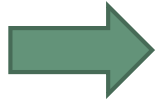




Add Activation

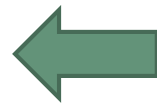
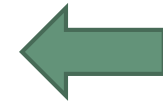
Activator N3NWV	Reference K-1387
Start Date (UTC) 2021-09-16	Start Time (UTC) 00:00
End Date (UTC) 2021-09-16	End Time (UTC) 23:55





Add Activation

Activator N3NWV	Reference K-1387
Start Date (UTC) 2021-09-16	Start Time (UTC) 00:00
End Date (UTC) 2021-09-16	End Time (UTC) 23:55



Home

ADD SPOT

Active Spots

Data will automatically refresh every 60 seconds.

VA2SG @ VE-0973

[VE-0973, Parc de la Riviere-du-Moulin Regional Park](#)

CA-QC

7029.8 kHz
CW

N4ZR

RBN 16 dB via N4ZR-#

Last heard 1 min ago at 14:29 UTC

RE-SPOT

N4SOC @ K-0702

[K-0702, Cowpens National Battlefield](#)

US-SC

7217 kHz

KB4XT

57 in Alabama

Last heard 1 min ago at 14:29 UTC

RE-SPOT

KN4SNI @ K-2750

[K-2750, Pilot Mountain State Park](#)

US-NC

14312 kHz

AE4WX

KE1AK @ K-6986

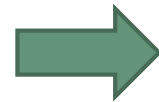
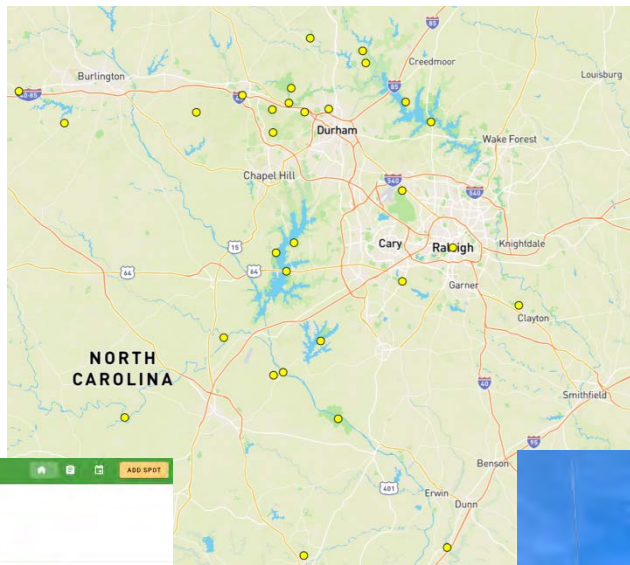
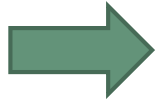
[K-6986, Simmons Mill Wildlife Management Area](#)

US-RI

7295 kHz

KX4MI

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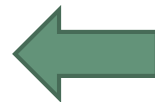
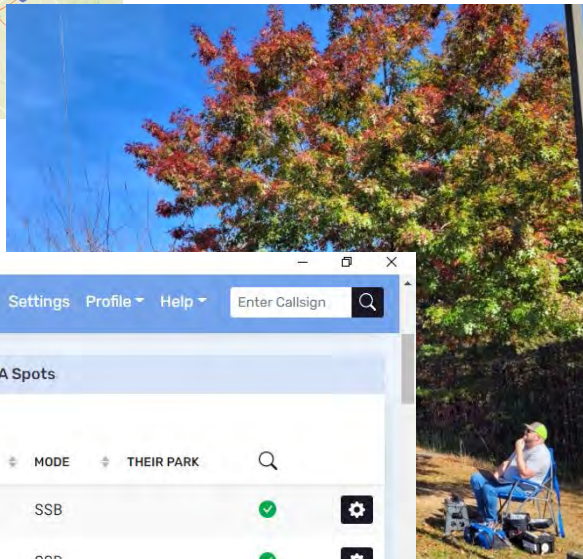


Add Activation

Activator: N3NWV Reference: K-1387

Start Date (UTC): 2021-09-16 Start Time (UTC): 00:00

End Date (UTC): 2021-09-16 End Time (UTC): 23:55



Home ADD SPOT

Active Spots
Data will automatically refresh every 60 seconds

VA2SG @ VE-0973

- VE-0973: Parc de la Rivière-de-Matane Regional Park
- CR-05
- 7026.3 kHz
- ON
- N4ZR
- 88N 16 dB via N4ZR#
- Last heard 1 min ago at 14:29 UTC

N4SOC @ K-0702

- K-0702: Coopers Memorial State Park
- US-50
- 7207 kHz
- K8AXI
- 37 m, Alabama
- Last heard 1 min ago at 14:29 UTC

RE-SPOT

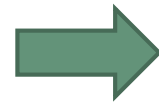
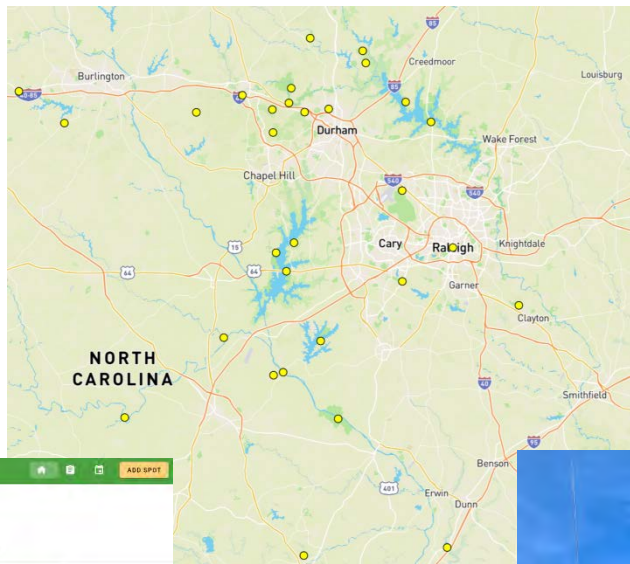
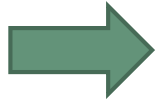
HAMRS - Every Day is Field Day

HAMRS Logbooks QSOs Settings Profile Help Enter Callsign

Entries 112 QSO Map POTA Spots

Call, Name, Park... Clear

DATE	CALLSIGN	RST ↑	RST ↓	STATE	FREQUENCY	BAND	MODE	THEIR PARK
01:47:51 2022-11-18	K70DS	44	55	MT	7.285	40m	SSB	✓
01:46:38 2022-11-18	WD2E	59	59	FL	7.285	40m	SSB	✓
01:45:39 2022-11-18	AA7RS	57	57	UT	7.285	40m	SSB	✓
01:44:36 2022-11-18	W2AJR	59	59	NY	7.285	40m	SSB	✓
01:44:01 2022-11-18	VA3QF	57	59	ON	7.285	40m	SSB	✓
01:42:39 2022-11-18	W9EMM	59	55	IL	7.285	40m	SSB	✓
01:41:30 2022-11-18	W0RCG	55	45	MN	7.285	40m	SSB	✓
01:39:14 2022-11-18	VA3EBM	59	59	ON	7.285	40m	SSB	✓
01:38:09 2022-11-18	KG8LM	59	58	MI	7.285	40m	SSB	✓



Add Activation

Activator: N3NVW Reference: K-1387

Start Date (UTC): 2021-09-16 Start Time (UTC): 00:00

End Date (UTC): 2021-09-16 End Time (UTC): 23:55



Home ADD SPOT

Active Spots
Data will automatically refresh every 60 seconds

VA2SG @ VE-0973

- VE-0973, Parc de la Rivière-de-Matane Regional Park
- DR-GC
- 7026.3 kHz
- OV
- N4ZK
- 88M 16 dB via N4ZK-F
- Last heard 1 min ago at 14:24 UTC

ADD SPOT

N4SOC @ K-0702

- K-0702, Coopers Memorial State Park
- UR-SC
- 7217 kHz
- K8AXI
- 37 m, Alabama
- Last heard 1 min ago at 14:21 UTC

ADD SPOT

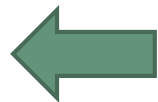
KN4SNI @ K-2750

- K-2750, Blue Mountain State Park
- UR-NC
- 14312 kHz
- K64WX

KE1AK @ K-6986

- K-6986, Sumner Mill Wildlife Management Area
- UR-NC
- 7285 kHz
- KX4MI

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HAMRS - Every Day a Field Day

Logbooks QSOs

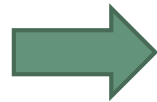
Settings Profile Help Enter Callsign

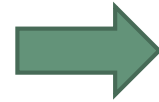
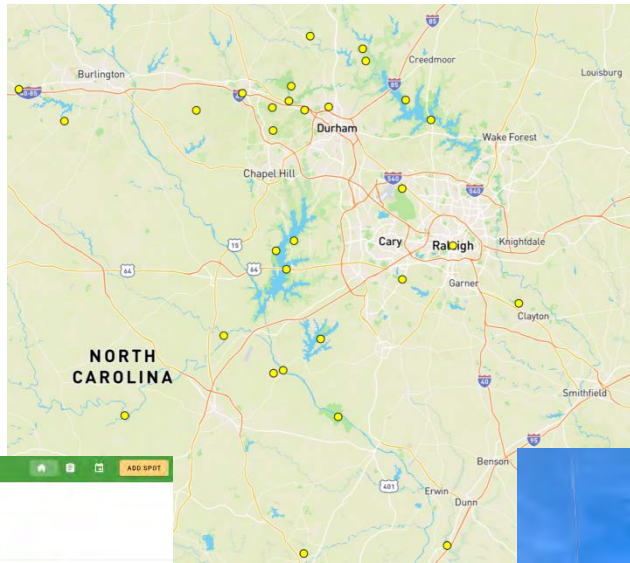
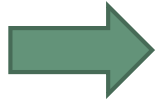
Entries: 62

Call Name Park... Clear

GSO Map POTA Spots

DATE	CALLSIGN	RST	RST	STATE	FREQUENCY	BAND	MODE	THEIR PARK
01:47:51 2022-11-18	K7ODS	44	55	MT	7.285	40m	SSB	✓
01:46:38 2022-11-18	WB2E	59	59	FL	7.285	40m	SSB	✓
01:45:39 2022-11-18	AA7RS	57	57	UT	7.285	40m	SSB	✓
01:44:36 2022-11-18	W2AJR	59	59	NY	7.285	40m	SSB	✓
01:44:01 2022-11-18	VA3QF	57	59	ON	7.285	40m	SSB	✓
01:42:39 2022-11-18	W9EMM	59	55	IL	7.285	40m	SSB	✓
01:41:38 2022-11-18	W0RCG	55	45	MN	7.285	40m	SSB	✓
01:39:14 2022-11-18	VA3EEM	59	59	ON	7.285	40m	SSB	✓
01:38:09 2022-11-18	K0BLM	59	58	MI	7.285	40m	SSB	✓





Add Activation

Activator: N3NWV Reference: K-1387

Start Date (UTC): 2021-09-16 Start Time (UTC): 00:00

End Date (UTC): 2021-09-16 End Time (UTC): 23:55



Active Spots

VA2SG @ VE-0973

- VE-0973: Pappichia Springs State Park
- 09:00
- 7026.3 kHz
- CV
- N4ZK
- 88N 16 dB via N4ZK-F
- Last heard 1 min ago at 14:29 UTC

N4SOC @ K-0702

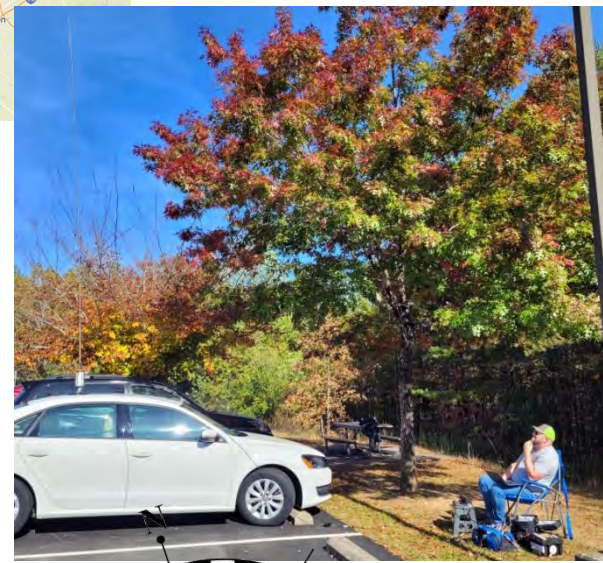
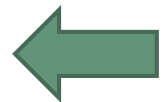
- K-0702: Coopers Rest State Park
- 19:50
- 7217 kHz
- K8AXI
- 37 m. Atlanta
- Last heard 1 min ago at 14:29 UTC

KN4SNI @ K-2750

- K-2750: Blue Mountain State Park
- 08:10
- 14312 kHz
- K44WX

KE1AK @ K-6986

- K-6986: Sumner Mill Wildlife Management Area
- 08:00
- 7285 kHz
- KXAM



HAMS - Every Day a Field Day

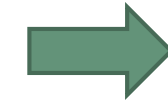
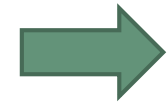
Logbooks QSOs

Settings Profile Help Enter Callsign

Entries: 62

GSO Map POTA Spots

DATE	CALLSIGN	RST	RST	STATE	FREQUENCY	BAND	MODE	THEIR PARK
01:47:51 2022-11-18	K7ODS	44	55	MT	7.285	40m	SSB	
01:46:38 2022-11-18	WB2E	59	59	FL	7.285	40m	SSB	
01:45:39 2022-11-18	AA7RS	57	57	UT	7.285	40m	SSB	
01:44:36 2022-11-18	W2AJR	59	59	NY	7.285	40m	SSB	
01:44:01 2022-11-18	VA3QF	57	59	ON	7.285	40m	SSB	
01:42:39 2022-11-18	W9EMM	59	55	IL	7.285	40m	SSB	
01:41:38 2022-11-18	W0RCG	55	45	MN	7.285	40m	SSB	
01:39:14 2022-11-18	VA3EEM	59	59	ON	7.285	40m	SSB	
01:38:09 2022-11-18	K0BLM	59	58	MI	7.285	40m	SSB	



Western Prairie Fringed Orchid

That **Matt Heere N3NWV** has submitted proof of working **1000** unique reference areas in the Parks on the Air program, this certificate is hereby presented in recognition of this outstanding achievement.

1000 Hunter Award

Jason Johnston, W3AAX, POTA Coordinator 04/25/2020 Date

Photo: National Park Service via Wiki Commons



POTA is great for clubs too!

KC3EJA on the mic and NO3U on the paddles for the WW3AAA club

Details for Clubs

- Need a club account
- Need a couple of club members
- Use the club call on the air
- Log files contain both the <STATION_CALLSIGN> and <OPERATOR> ADI tags
- Both the club and the operator get credit for the QSOs
- Dupes are counted based on the club callsign





What does POTA consider a QSO? Every unique combination of:

- ▶ UTC Date
- ▶ Callsign
- ▶ Band
- ▶ Mode
- ▶ Park designators

SSB – CW – FT4

AM – FM – SSB

FT8 – PSK31 – RTTY – OLIVIA



Example Exchanges:

AM – FM – SSB

- ▶ Activator: CQ POTA, CQ Parks on the Air. This is KN4RFT in Kilo-8313, the Mountains to Sea Trail in NC. CQ POTA, CQ Parks on the Air and listening.
- ▶ Hunter: W4BMX
- ▶ Activator: W4BMX you are 59 from K-8313 in NC. QSL?
- ▶ Hunter: QSL, you are 59 NC.
- ▶ Activator: Thank you and 73.
 - ▶ Wait a second and call CQ or QRZ.

Example Exchanges:

CW

- ▶ Long CQ for RBN spotting and pre-scheduled activation to show up on pota.app:
- ▶ CQ CQ CQ POTA KD4AN KD4AN KD4AN (2x)
- ▶ Normal POTA operation after spot is achieved:
- ▶ Activator: CQ POTA KD4AN (keep it short, repeat as needed)
- ▶ Hunter: KN4RFT
- ▶ Activator: KN4RFT GM|GA|GE (good morning/afternoon/evening) UR 55N 55N NC <BK>
- ▶ Hunter: <BK> TU UR 55N 55N NC 73 (or GL good luck) <BK>
- ▶ Activator: <BK> TU (and/or 73) KD4AN
 - ▶ Wait a second and call CQ again if no one comes back.



Thank you to Daniel KD4AN for typing out this exchange.

Example Exchanges:

FT8 - FT4

141515	-4	-0.7	952	~	CQ POTA KI5HBS EM60 U.S.A.
141530	Tx		952	~	KI5HBS KN4RFT FM05
141545	-3	-0.7	952	~	KN4RFT KI5HBS +04
141600	Tx		952	~	KI5HBS KN4RFT R-03
141615	-6	-0.7	951	~	KN4RFT KI5HBS RR73
141630	Tx		952	~	KI5HBS KN4RFT 73

KI5HBS @ K-1876

K-1876 Henderson Beach State Park

US-FL

7074 kHz (FT8)

KJ7RMF-#

GT -17 dB CN95 via KJ7RMF-#

Last heard 47 sec ago at 14:36 UTC

RE-SPOT

Settings

General Radio Audio Tx Macros Reporting Frequencies Colors Advanced

Station Details

My Call: KN4RFT My Grid: FM05SW AutoGrid IARU Region: All

Message generation for type 2 compound callsign holders: Full call in Tx3

Generate Std Msgs

	Next	Now
KI5HBS KN4RFT FM05	<input type="radio"/>	Tx 1
KI5HBS KN4RFT -03	<input type="radio"/>	Tx 2
KI5HBS KN4RFT R-03	<input type="radio"/>	Tx 3
KI5HBS KN4RFT RR73	<input type="radio"/>	Tx 4
KI5HBS KN4RFT 73	<input type="radio"/>	Tx 5
CQ POTA KN4RFT FM05	<input checked="" type="radio"/>	Tx 6



Hunters make the whole thing work

"It's no fun calling CQ and getting crickets in return"
-Every Ham

- ▶ Create an account at <https://pota.app>
- ▶ Watch the spotting page at <https://pota.app> (or spin the VFO!)
- ▶ Call the activators!
 - ▶ Following the DX Code of Conduct
- ▶ Track your progress and see your awards back at pota.app

Hunted Parks

Alaska	2 QSOs with 2 unique parks
Canada	85 QSOs with 73 unique parks
Puerto Rico	8 QSOs with 8 unique parks
Spain	1 QSOs with 1 unique parks
United States Of America	3403 QSOs with 1748 unique parks

Hunted Bands

	160m	80/75m	60m	40m	30m	20m	17m	15m	12m	10m	6m	2m	1.25m	70cm	33cm	23cm	Other	All Bands
CW	0	0	6	286	79	210	5	2	0	0	0	0	0	0	0	0	5	593
DATA	0	0	0	15	0	9	0	0	0	0	0	0	0	0	0	0	0	24
PHONE	0	3	0	2069	0	736	29	6	1	5	0	2	0	0	0	0	31	2882
Total	0	3	6	2370	79	955	34	8	1	5	0	2	0	0	0	0	36	3499

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Now I Really Love It! Where do I go next again?

<https://parksontheair.com>

Maps of Entities [Help/Getting Started](#) Dashboard/Login Awards POTA Schedule

New

- How to Register
- Rules
- FAQ
- Video Guides for Activators
- Activator PDF Guide
- Video Guides for Hunters
- Hunter PDF Guide

COVID-19

Welcome to that promote state/provini

OTA) site for portable amateur radio operations d communications from national and

out Help/Getting Started in the menu abo

r details about other countries we are addi

e to Mike Maciel CU3HY as the new Portug

<https://pota.app>

Home

ADD SPOT

Active Spots

Data will automatically refresh every 60 seconds.

VE3FP @ VE-0363 <ul style="list-style-type: none">VE-0363_Restoule Provincial ParkCA-ON7044.0 kHz CWW3RGARBN 28 dB via W3RGA-#Last heard 0 mins ago at 14:22 UTCRE-SPOT	KC5F @ K-6949 <ul style="list-style-type: none">K-6949_Sandy Mush State Game LandUS-NC7042.0 kHz CWK3PARBN 19 dB via K3PA-#Last heard 0 mins ago at 14:22 UTCRE-SPOT
KE4Q @ K-1857 <ul style="list-style-type: none">K-1857_Don Pedro Island State ParkUS-FL14040.0 kHz CWW1NT-6RBN 13 dB via W1NT-6-#Last heard 2 mins ago at 14:20 UTCRE-SPOT	AC4SH @ K-2205 <ul style="list-style-type: none">K-2205_Victoria Bryant State ParkUS-GA7237 kHzKD9KNJLast heard 5 mins ago at 14:18 UTCRE-SPOT

W4EDN @ K-2883

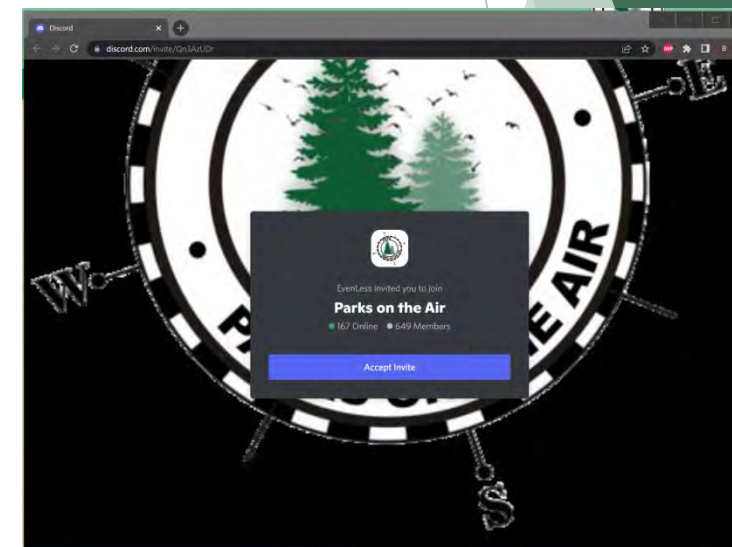
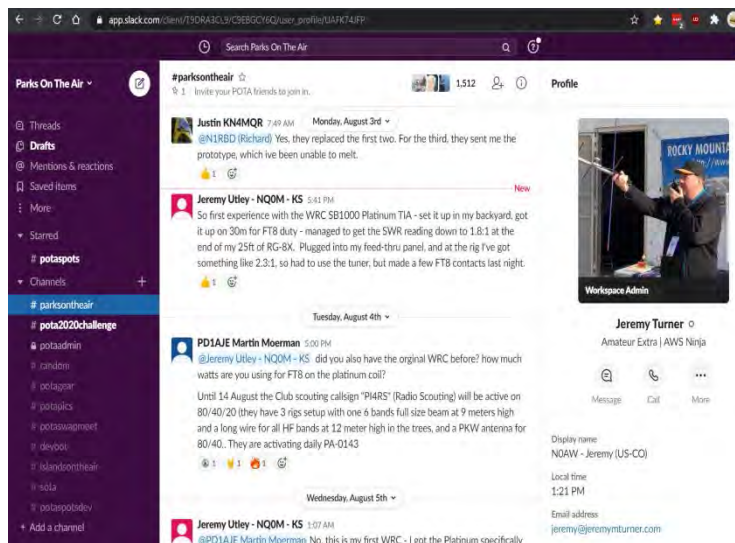
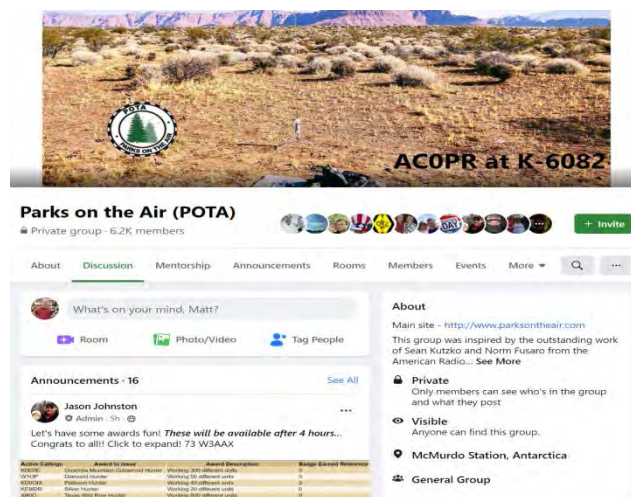
KN4FKS @ K-3758

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Social Media and Connections

<https://www.facebook.com/groups/parksontheair>



<https://parksontheair.slack.com>

Parks on the Air on Discord



RARS Portable Operating Group

- ▶ RARS has its own group specializing in Portable Operating.
- ▶ Organizer: Brantley K4CBW
- ▶ RARS Portable Operating Group is on Discord!
- ▶ Watch the RARS email list for scheduled times and locations.



Brantley K4CBW and Joe KO4TCY
activating K-6852 The North Carolina
Capital State Historic Site



Planning an Activation

Be cognizant of rules/restrictions/amenities for your entity.

Is there an entry fee?

Are you allowed to hang wires in trees?

Are you allowed to go off trail?

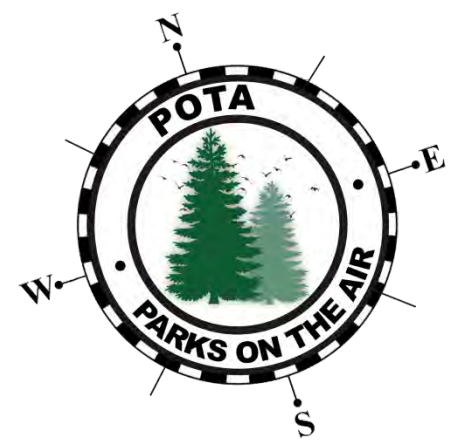
Are you allowed to use tent spikes or pegs?

Do the hours of operation create time restrictions?

Does the entity offer camp sites / restrooms / electricity / reservable shelters?



Activation at Stumphouse Mountain in SC,
in K-4523 Sumter National Forest



Portable Stations

Bring what you have and feel like carrying.

- Power Source
- Radio
- Antenna
- Logging Solution
- Snacks and Water
- Weather appropriate clothes and footwear
- Sun screen and/or insect repellent



Activating the Blue Ridge Parkway Information Center,
on K-3378 the Blue Ridge Parkway

Power

- ▶ You might have mains available
 - ▶ Pavilions
 - ▶ Campgrounds
 - ▶ Watch the voltage drop on long extension cords
- ▶ Generators
 - ▶ Noisy /smelly / irritating to others
 - ▶ Unreliable
 - ▶ RFI problems
- ▶ Battery power
 - ▶ Perhaps with solar recharge



Radios!

- ▶ Almost any radio will work
- ▶ Things that are handy to have:
 - ▶ Built in tuner
 - ▶ Built in CW keyer
 - ▶ Built in PC interfaces
 - ▶ More bands (shack in a box)
- ▶ All else being equal – QRO works better than QRP
 - ▶ But remember ERP is what counts
- ▶ **Use a radio that you're willing to use outside, with bugs and bug spray and a top-heavy insulated cup of coffee**



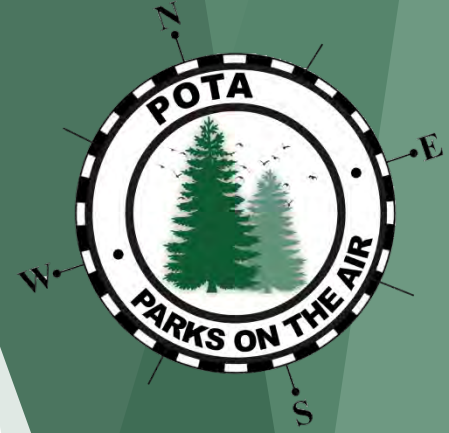
Antennas



- ▶ Again – anything can work
 - ▶ Don't let “perfect” become the enemy of “good”
- ▶ Footprint might matter
- ▶ Deployment time/ease might matter
- ▶ Take-off angle probably matters
- ▶ Power handling, durability, and aesthetics tend to matter less than at other times



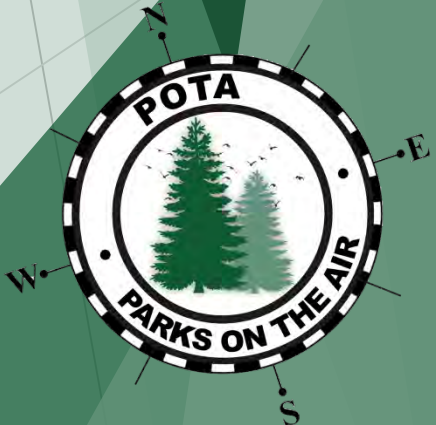
Tripod based self-supporting



Resonant, Multi-band Antennas



End-fed Wire Antennas



Logging

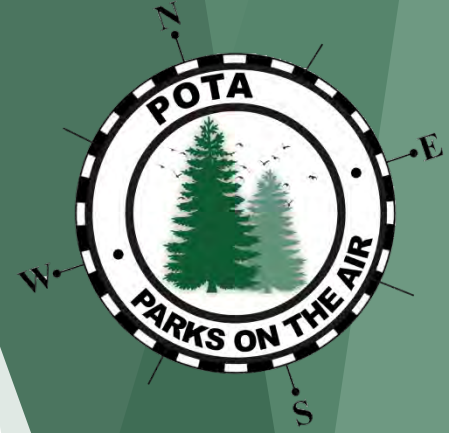
▶ How should I Log?

▶ By Hand/Paper

- ▶ POTA.app now offers a Manual Log Entry option if you prefer paper logging.

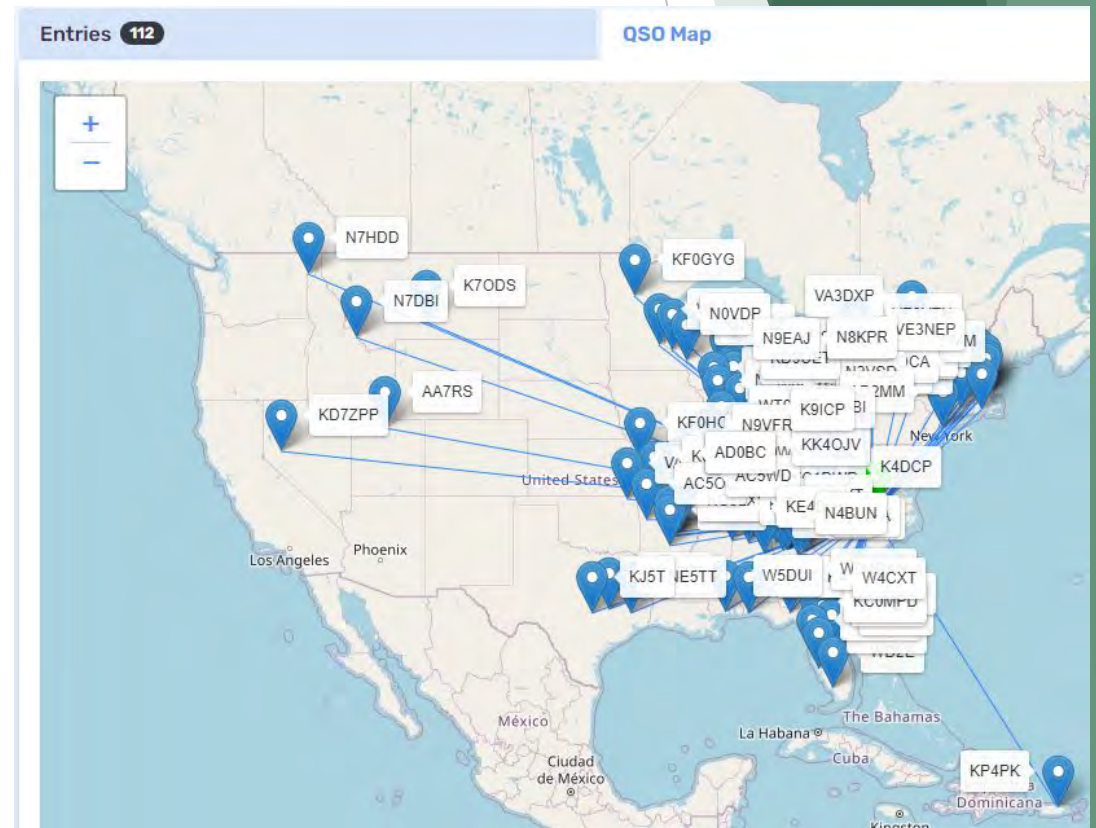
▶ Digital Programs

- ▶ HAMRS
- ▶ N3FJP
- ▶ ADIF Master
- ▶ Etc...



HAMRS

The screenshot shows the HAMRS website homepage. At the top, there is a navigation bar with the HAMRS logo and links for Community, Donate, Merch, and Patreon. A 'What's New' link is also present in the top right corner. The main heading is 'Every Day Is Field Day™', followed by the text 'A simple, portable logger tailored for activities like Parks on the Air, Field Day, and more.' Below this, there is a 'Download v1.0.6 Now' button. Underneath, there are four buttons for different operating systems: macOS, Windows, Ubuntu (with a note for '32-bit Version'), and Raspbian. At the bottom, there are three buttons for downloading the app from the App Store, Google Play, and Amazon Appstore.



Computers in the field

- ▶ 100% Optional (well – 50% anyway)
- ▶ Needed for digital modes
- ▶ Something connected needed for self-spotting
 - ▶ Or a reliable friend who knows your schedule
- ▶ Electronic Logging
 - ▶ Required by all of the programs
 - ▶ More accurate if connected to the radio
 - ▶ Live callsign lookup for personalized QSOs



Computers in the field

- ▶ Power can be an issue over long periods
 - ▶ Automotive chargers can run from your rig battery
 - ▶ Watch the RFI though
- ▶ Solid state storage makes them all but vibration proof
- ▶ Screen glare + sunshine = migraine headache
 - ▶ Matte screen protectors are awesome
- ▶ If you have a non-resonant antenna you should own stock in a ferrite bead company
 - ▶ Not all USB cables are created equal!



Tips and Tricks

Learn this in steps

- If you can, visit the place you plan to activate before your actual activation
 - Setup your kit in the back yard and make sure you have everything (and it works)
 - Make a checklist based on your test setup so everything gets into the car
 - **Start close to home, when the weather is good, and the activation is all you have planned**



Tips and Tricks

Know which frequencies to use and which to avoid.

- Use:
 - Any VHF and UHF Simplex frequencies.
 - Any HF frequency available to General class license holders.
 - Extra class frequencies are allowed, but are not as accessible.
- Avoid
 - FM repeater input frequencies.
 - Frequencies currently in use.
 - Remember to listen first, then as if a frequency is in use.
 - Check the POTA spots page for other activations using the same frequency.
 - 14.325 Mhz and 7.268 MHz - Hurricane Watch Nets.
 - 7.200 MHz – ask your friends.



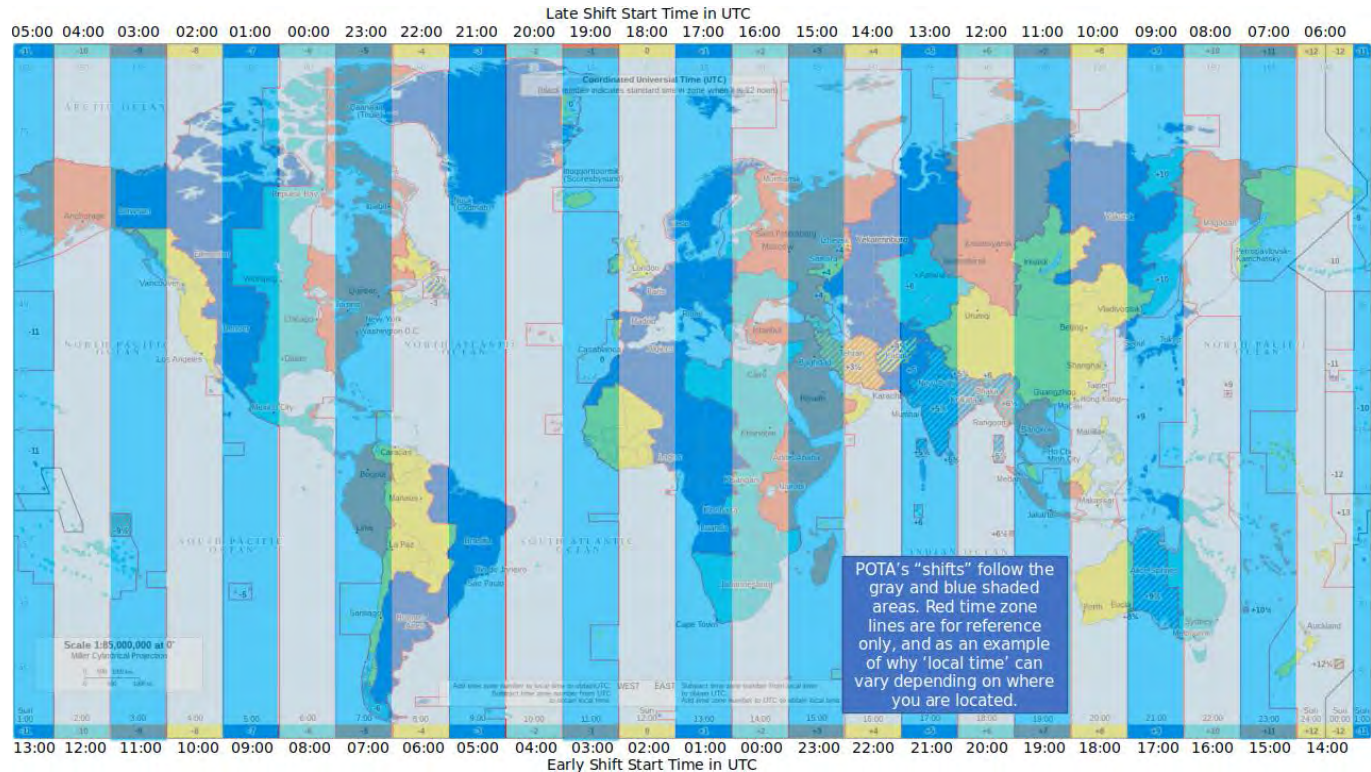
Tips and Tricks

Late Shift:

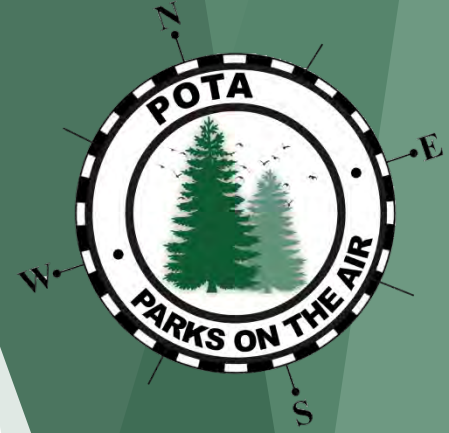
Late Shift is the 6-hour period beginning at 20:00 UTC, +/- 1 hour for each 15 degrees of longitude that the park pin is offset from 0 degrees.

Early Shift:

Early Shift is the 6-hour period beginning at 02:00 UTC, +/- 1 hour for each 15 degrees of longitude that the park pin is offset from 0 degrees.



Thanks



A special thank you to Matt N3NWV, for the basis of this presentation.

Batteries are the most common



LiFePo4

- ▶ Voltage profile works well
 - ▶ Starts at 13.6V and runs 12.8V until nearly depleted
- ▶ Can use the full capacity
- ▶ Lifespan is 1000's of cycles and 10's of years
- ▶ High charge density (low weight / watt-hours)
- ▶ Lowest total cost of ownership
- ▶ One of the safest chemistries available



Sealed Lead Acid

- ▶ Voltage is a problem for many radios
 - ▶ Starts at 12.5V and drops to under 11.7 very quickly
- ▶ Can use at most 50% capacity (usually much less due to voltage)
- ▶ Lifespan is 2-300 cycles and 5 years
- ▶ Doubles as your boat anchor
- ▶ Lowest upfront cost
- ▶ Can leak, but proven durable enough for automotive use over decades



Solar generation extends battery life

- ▶ Typically need 2W of solar for every 1W RF output to maintain battery (full sun)
- ▶ Divide by the fraction of the day with full sun to figure round-the-clock numbers

