

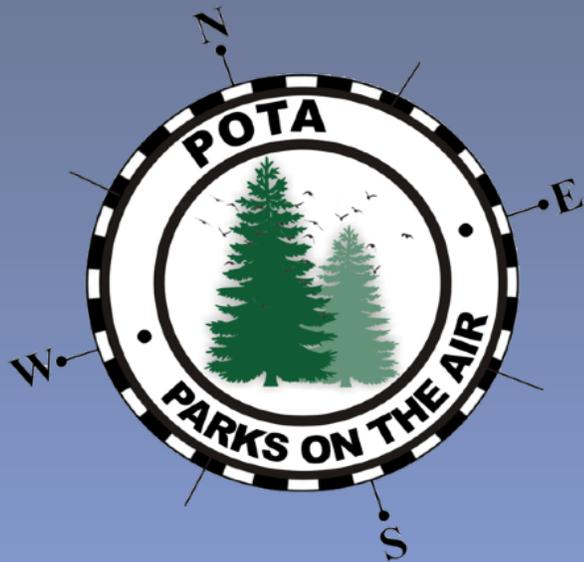
# Introduction to SOTA and POTA



Bob Witte, KØNR  
bob@k0nr.com  
Monument, CO



**Summits On The Air**



**Parks On The Air**

# Introduction to SOTA and POTA



# Speaking Today

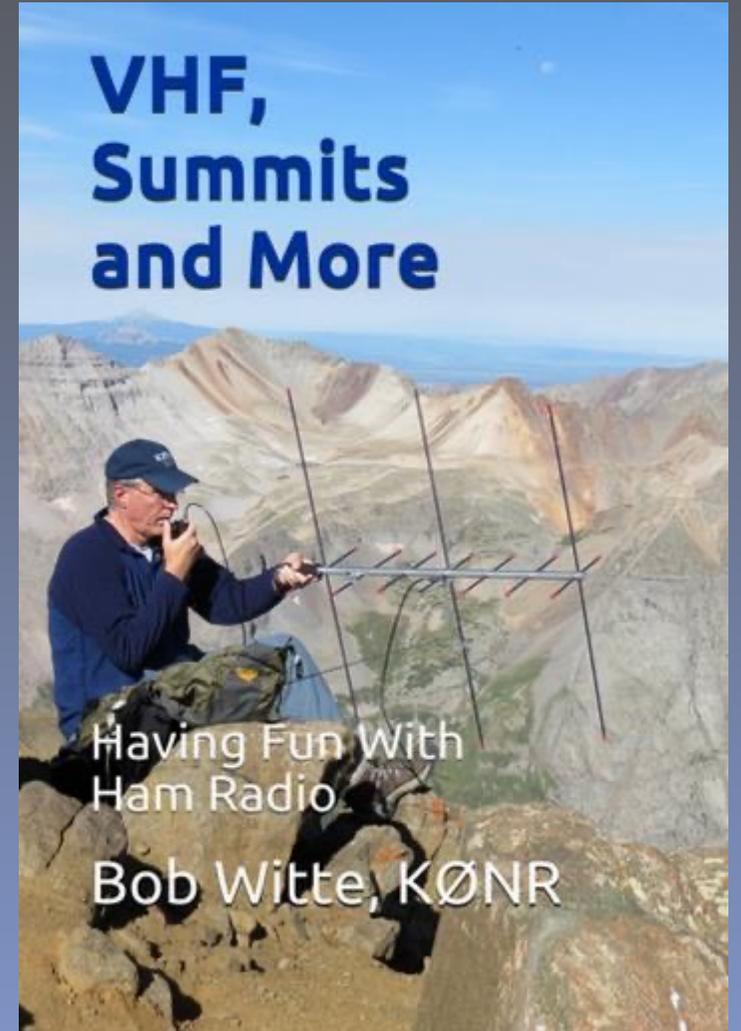
Steve wGØAT

Monument, CO USA DM79

I was first licensed in 1958 after self study the ARRL  
“How to Become a Radio Amateur”

I’m non technical my background studying art at California  
Institute of the Arts (CIA) short stint in US Army later I finished  
up my degree in Graphic Design @ Long Beach State and I  
working in Marketing @ Hewlett-Packard for decades in the  
electronic test and measurement industry.

Ham radio interest: the confluence of building my HF gear  
mainly QRP-CW, then hiking to a summits and making contacts  
world wide!

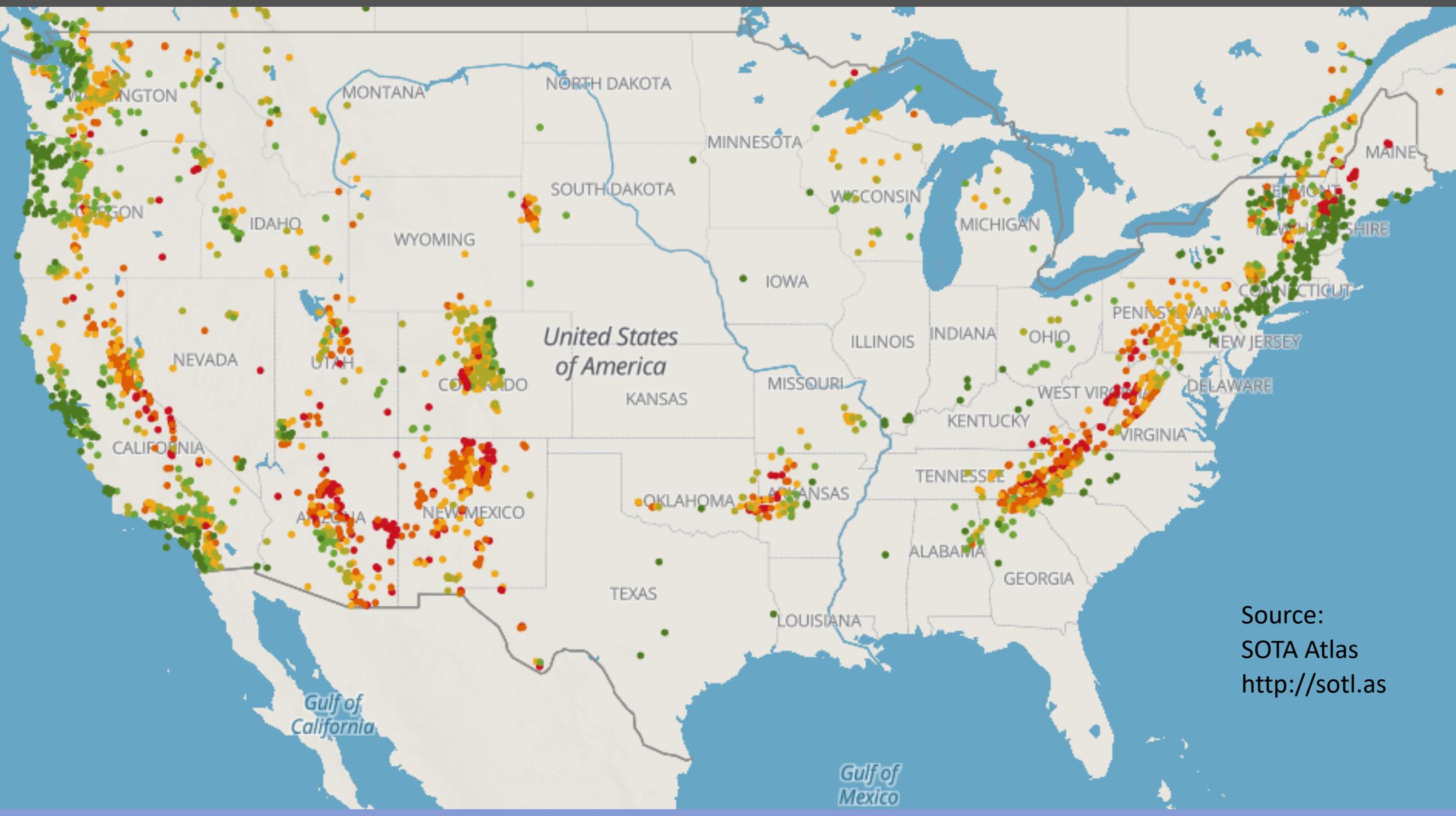


# Summits On The Air

- Two ways to participate
  - Activator
  - Chaser
- Worldwide program managed locally by each Association (usually covering one state)
- Points and Award System
- Higher elevation summits get more points
- SOTA activation requirements:
  - summit must be on the SOTA list
  - equipment must be carried (no minimum distance, not attached to vehicle)
  - portable power (no fossil fuel generators)

See <https://www.sota.org.uk/>





Source:  
SOTA Atlas  
<http://sotl.as>

# HF or VHF?

## Take Your Pick, Or Do Both

### VHF/UHF

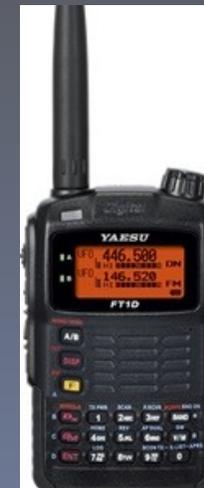
Height Above Average Terrain

Basic/compact equipment: Handheld Transceiver (HT)

Dependent on local chasers

FM most common, SSB for VHF contests

Technician Licensees can play



### HF

Classic QRP operating (CW and SSB)

Longer distance contacts

More radio contacts

Recommended: General License Class or higher





## How Popular is VHF/UHF for SOTA?

- 80% of the SOTA QSOs logged are below 50 MHz
- 20% of the SOTA QSOs logged are above 50 MHz
- Above 50 MHz, 2m FM is the dominant band/mode
  - 90% of the QSOs are on the 2-meter band
  - 85% of the >50 MHz QSOs are FM

# Easy VHF SOTA Activation

Also known as “take along a 2m handheld on a hike”



Kaufman Ridge HP  
(WØ/SP-081)

10,765 feet elevation

# The ½-wave Vertical Antenna

Dualband 2m/70cm  
halfwave antenna  
Search Amazon for  
TWAYRDIO RH770

SMA (male or female)  
BNC

\$17 delivered



# Roll Up J-pole Antenna for 2 meters

- About 54 inches long
- Hang it in a tree or on a fishing pole
- Halfwave radiator with a quarterwave matching section
- Also dualband versions for 2m/70cm



Photo: kb3kai.com

# Improved VHF SOTA Activation

Also known as “bring along a small 2-meter Yagi antenna”



Aspen Ridge  
(WØC/SP-084)

10,740 feet elevation

Arrow 3-element Yagi  
for 2m

Joyce KØJJW  
Humbolt Peak  
14,064 feet  
W0C/SC-001



Joyce KØJJW  
Eagle Rock  
WOC/SP-113



# Steve WGØAT at 14,000 Feet



Joyce/KØJJW  
Bob/KØNR  
Spinney Mountain  
WØC/SP-118

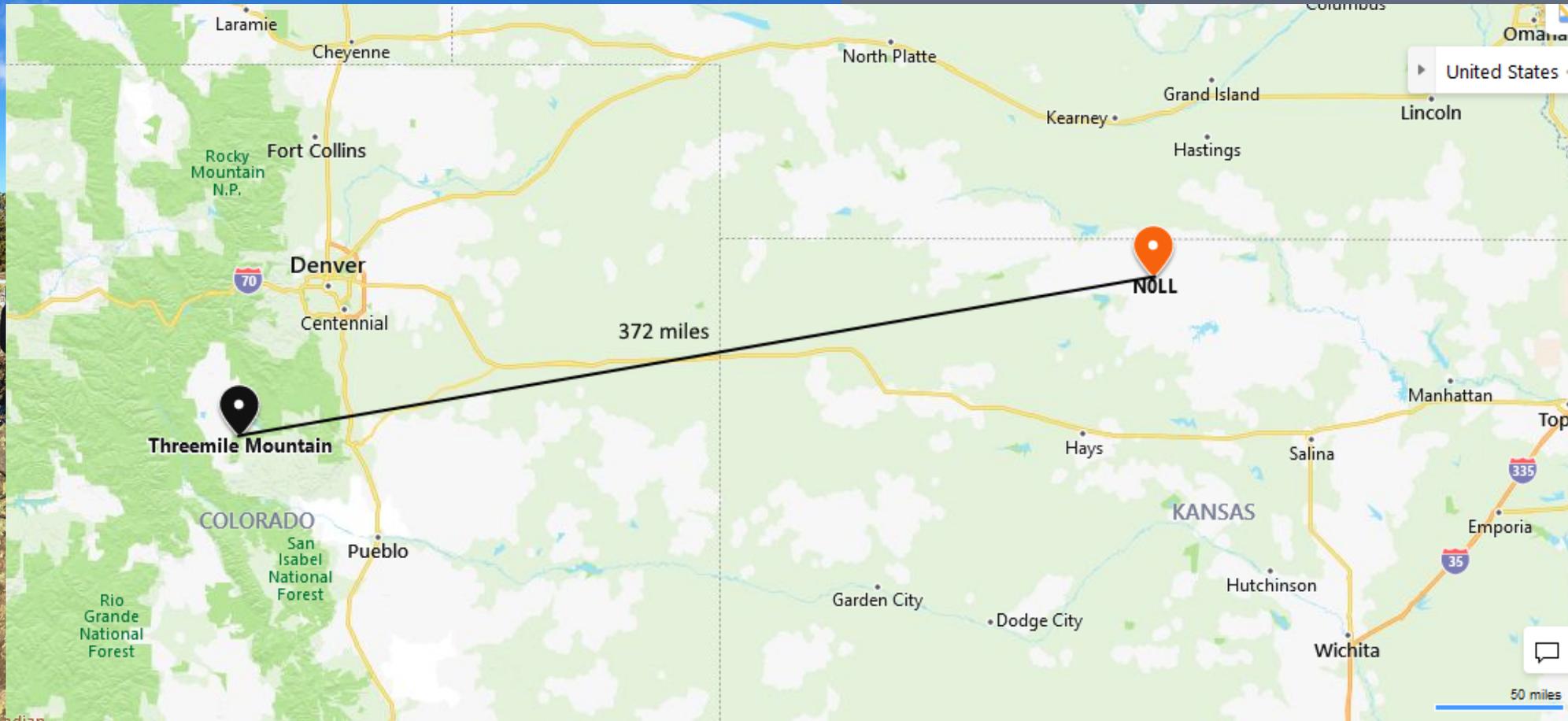


# David KI6YMZ on Mt Elbert 2015



# Threemile Mountain (10,020 feet)

And then I heard Larry/NØLL calling me...  
My Best 2m SOTA DX: 372 miles (SSB)



# HF SOTA Equipment

- Radios
- Antennas
- Operator Tools



*Silver Peak - WA*

# Yaesu FT-817 and FT-818

- + 'Swiss Army Knife'
- + 160m -70cm!
- + All Modes! (2.5 lbs)
- .5A on RX!
- Lacks ATU!





**Elecraft KX3**

- + 160-6m (+2m)
- + All modes
- + (1.5lbs)
- + .3A on RX
- + ATU, paddle

*Steve/K7PX*

## Elecraft KX-2

- + 80-10m (13-oz!)
- + All modes
- + .2A on RX!
- + ATU, paddle



- + Great frequency coverage
- + Waterfall display
- Lacks ATU

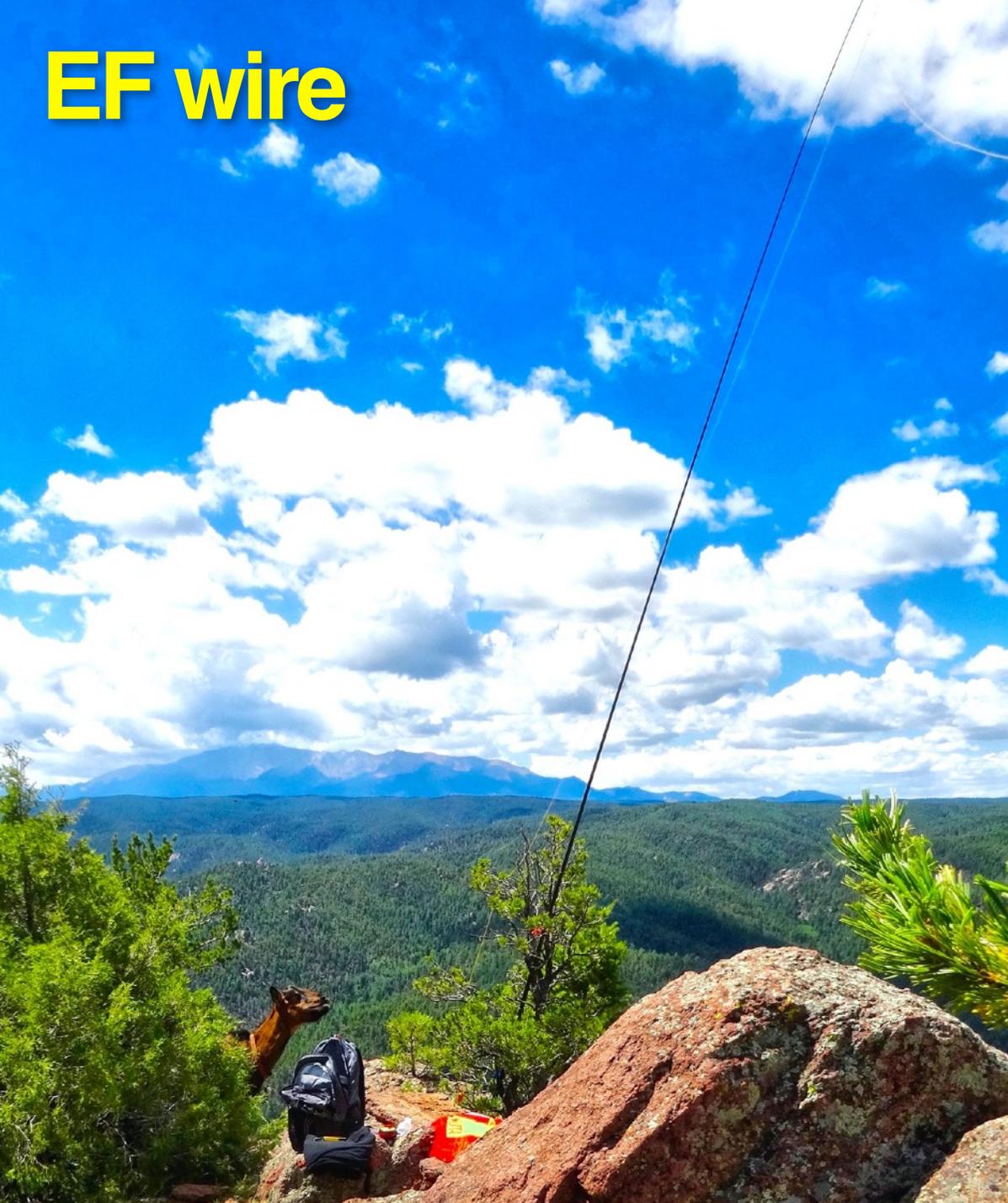




- Dipole vs End Fed
- ATUs
- Deploying
- Packaging

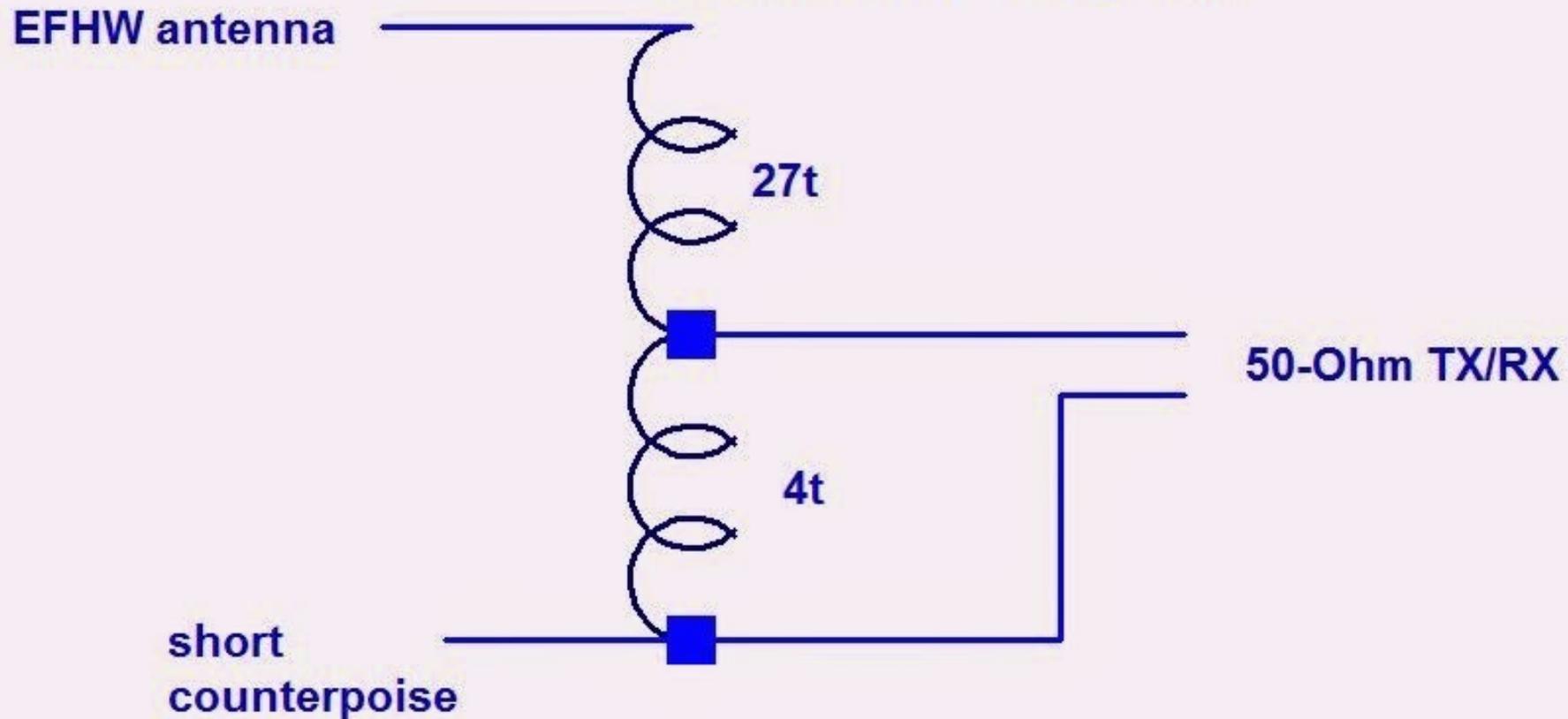


EF wire



## "NO TUNE" EFHW MATCHER

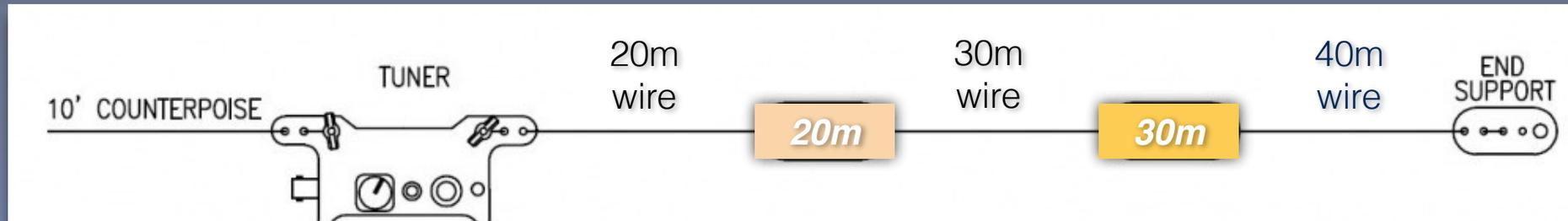
31 turns on FT-114-43 core



Tap 31 turn coil 4-turns from the ground end  
Alternately, use 31 turn primary and separate 4 turn secondary

# 3-band EFHW-trapper

- Single Wire with 2-traps
- Fix matching unit



# Bioenno LiFePO4 (LFP) Lithium Iron Phosphate Battery



## 12V, 4.5Ah LFP Battery (PVC, BLF-12045W)

Voltage: 12V

Capacity: 4.5 Ah

Maximum Continuous Discharge Current: 9A (Make sure your load consumes less than 9A)

Maximum Peak Pulse Current: 18A (2 sec.)

Max Power Delivered to Load at 12V:

108 Watts (12v x 9A = 108 Watts)

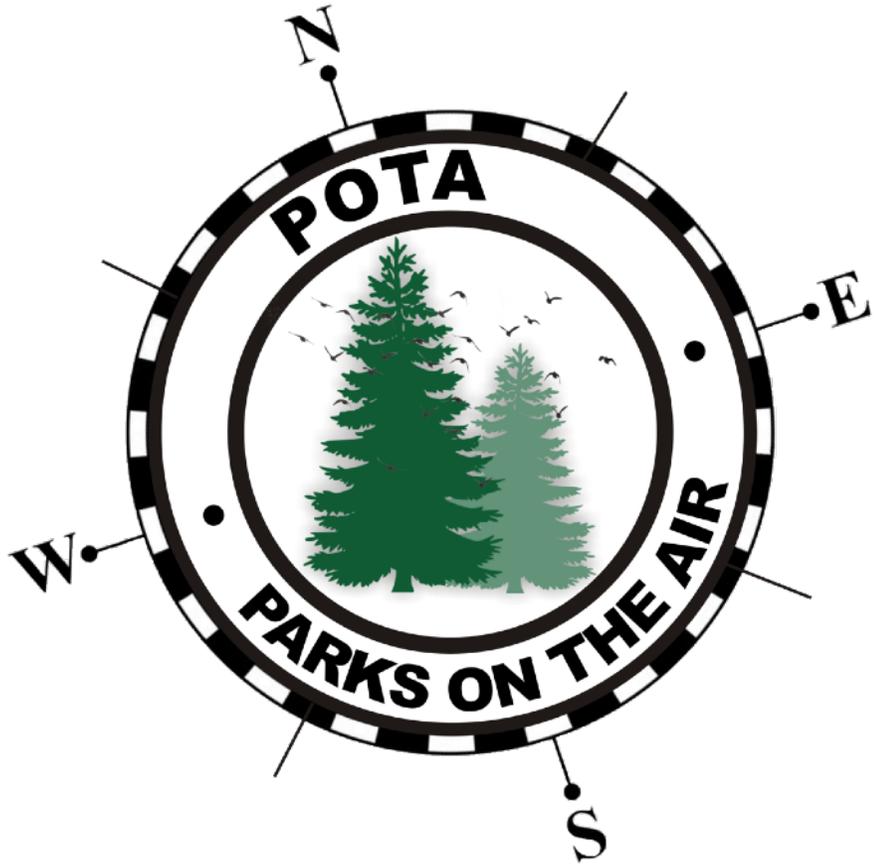
Dimensions:(L x W x H) 2.9 in. x 2.3 in. x 2.8 in. (76 mm x 57 mm x 71 mm)

Weight: 1.0 lbs. (0.5 kg.)

# SOTA Chasing

- Why Chase
- Tools
- Awards





# Parks On The Air

[www.parksontheair.com](http://www.parksontheair.com)

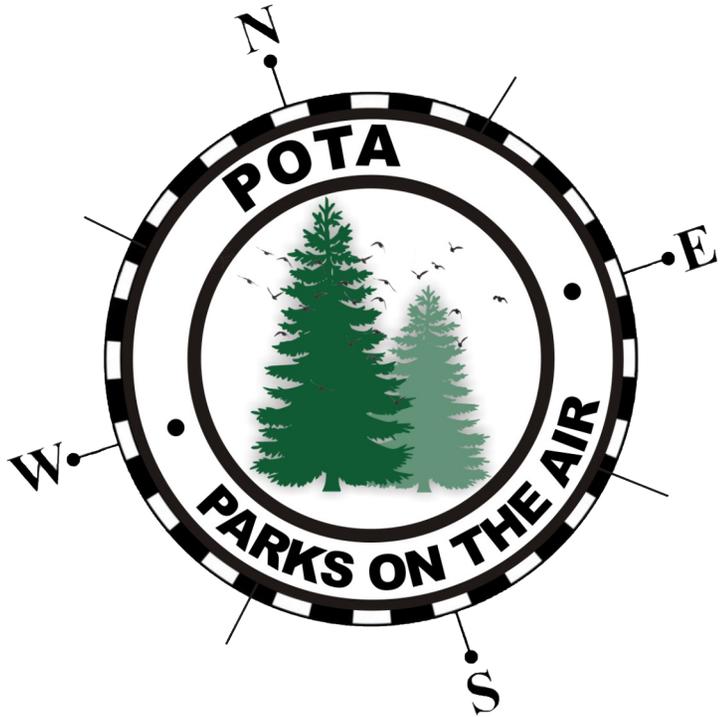
# Speaking Today

Tricia Olson K0TRD  
Colorado Springs, CO  
tricia4wd@gmail.com

I was first licensed in March, 2020. I upgraded to General in September 2020 & Extra in November 2021

Ham radio interests: portable antennas, POTA chasing & activating, propagation





# Parks On The Air

[www.parksontheair.com](http://www.parksontheair.com)

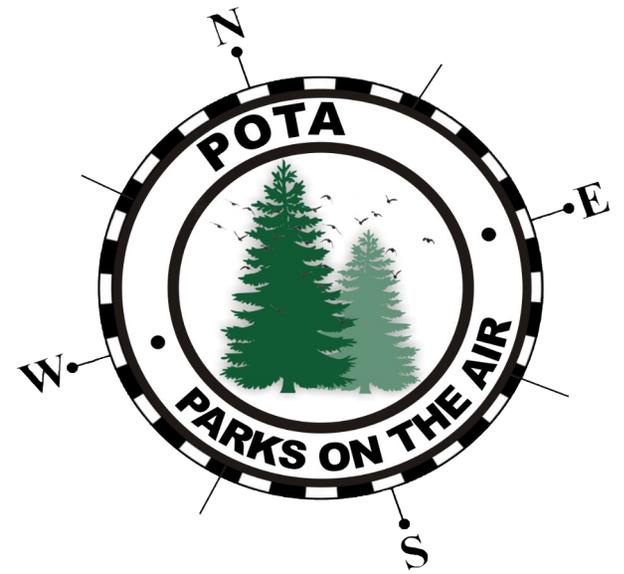
# Parks On The Air Program

POTA is a 501(c)3 radiosport program that encourages communications to and portable operations from state, provincial and nationally managed public lands.

POTA has a large set of references and a short set of rules. We welcome you to join us as an activator, chaser or both!

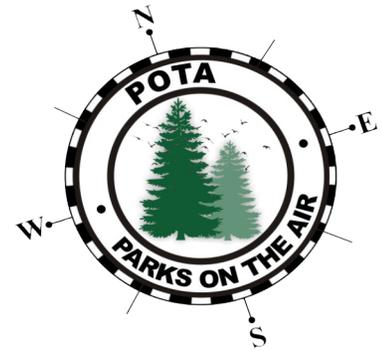
Compared to SOTA, POTA has fewer restrictions: OK to use commercial power, generators, vehicles, etc.

This makes POTA more accessible and more universal (parks are everywhere and you don't need summits nearby)



# What Is A Park?

- Federal level
  - National Parks, National Monuments, National Forests, National Recreation Areas, National Wildlife Refuges, Wilderness Areas, National Scenic Trails, ...
- State level
  - State Parks, State Forests, State Recreation Areas, State Wildlife Refuges, ...
- But not County or City parks
- The park must be on the POTA list
- Park designators in the USA are K-####

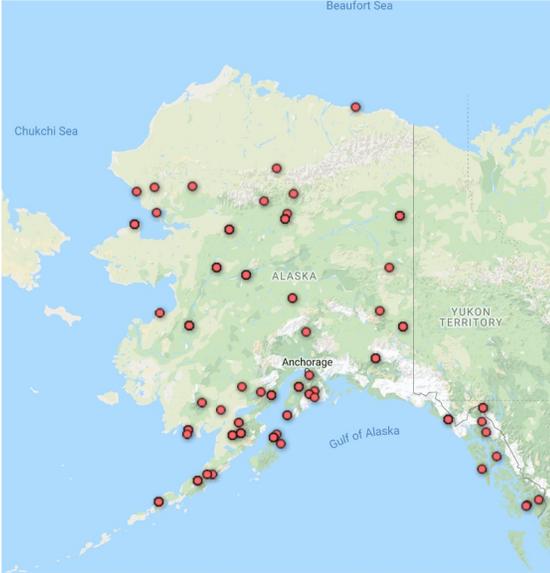
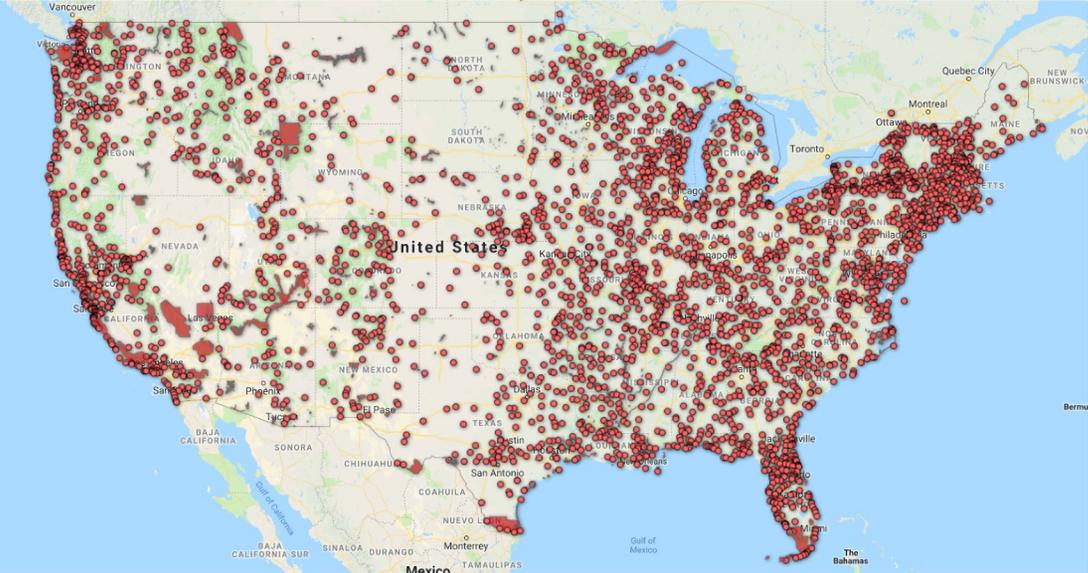


🌐 United States Of America

🌐 Colorado (US-CO)

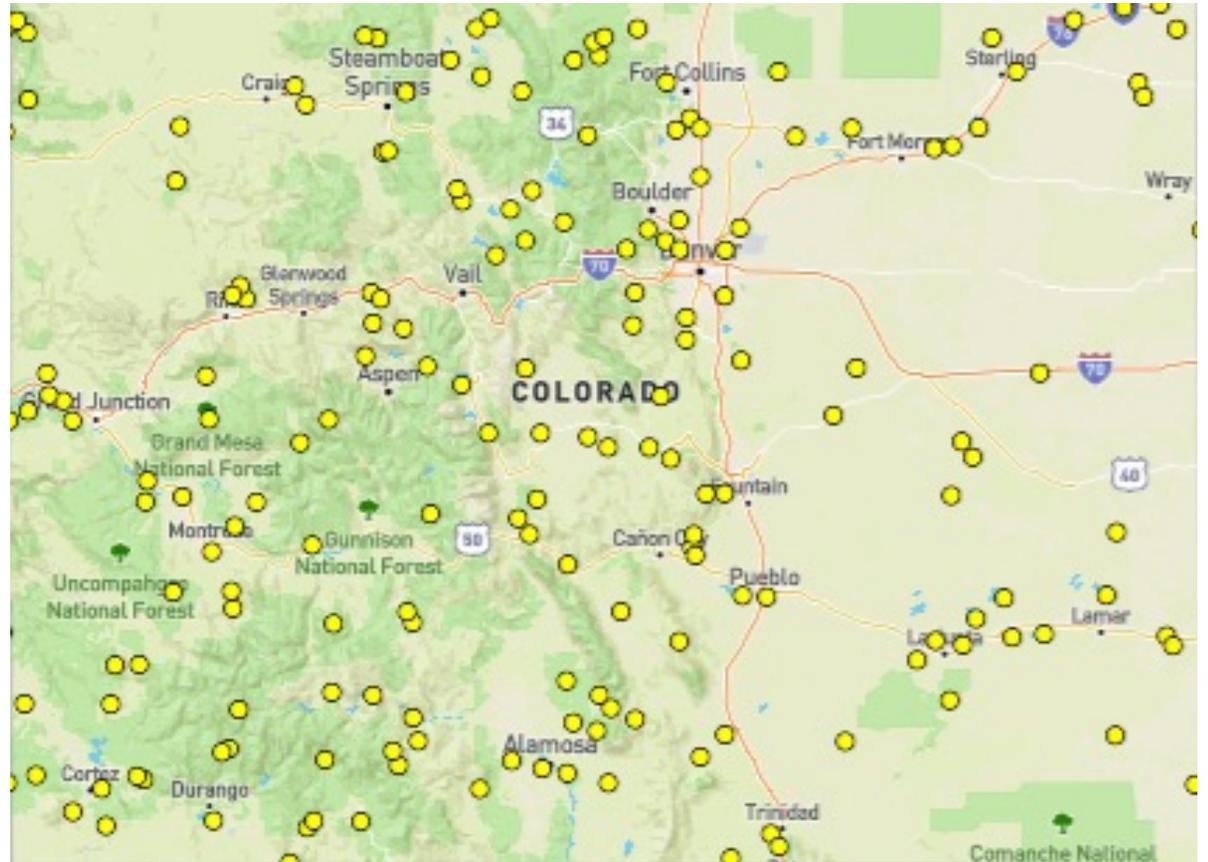
Reference	Name	Attempts	Activations
<a href="#">K-0008</a>	<a href="#">Black Canyon of the Gunnison National Park</a>	10	10
<a href="#">K-0033</a>	<a href="#">Great Sand Dunes National Park</a>	19	18
<a href="#">K-0051</a>	<a href="#">Mesa Verde National Park</a>	17	14
<a href="#">K-0059</a>	<a href="#">Rocky Mountain National Park</a>	42	38
<a href="#">K-0183</a>	<a href="#">Penrose Commons National Recreation Area</a>	3	3
<a href="#">K-0184</a>	<a href="#">Ramah State Wildlife Area</a>	9	8
<a href="#">K-0185</a>	<a href="#">Hugo State Wildlife Area</a>	4	4
<a href="#">K-0188</a>	<a href="#">Kinney Lake State Wildlife Area</a>	4	4
<a href="#">K-0190</a>	<a href="#">Flagler Reservoir State Wildlife Area</a>	7	7
<a href="#">K-0191</a>	<a href="#">Brush Hollow State Wildlife Area</a>	6	6

# Find maps and more at [parksontheair.com](http://parksontheair.com)



USA: 5579, Canada: 4491 Parks

# Colorado Parks



# Types of POTA Activations

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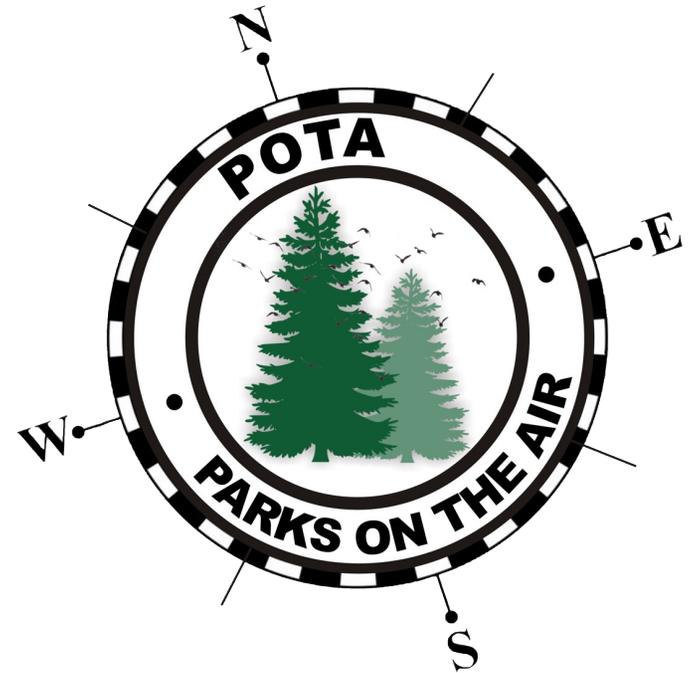
Backpack portable

Picnic table

Vehicle/Mobile

Campsite

Field Day style









# Backpack Portable

Joyce/KØJJW  
on Threemile  
Mountain  
(WØC/SP-107)

Pike National  
Forest (K-4404)

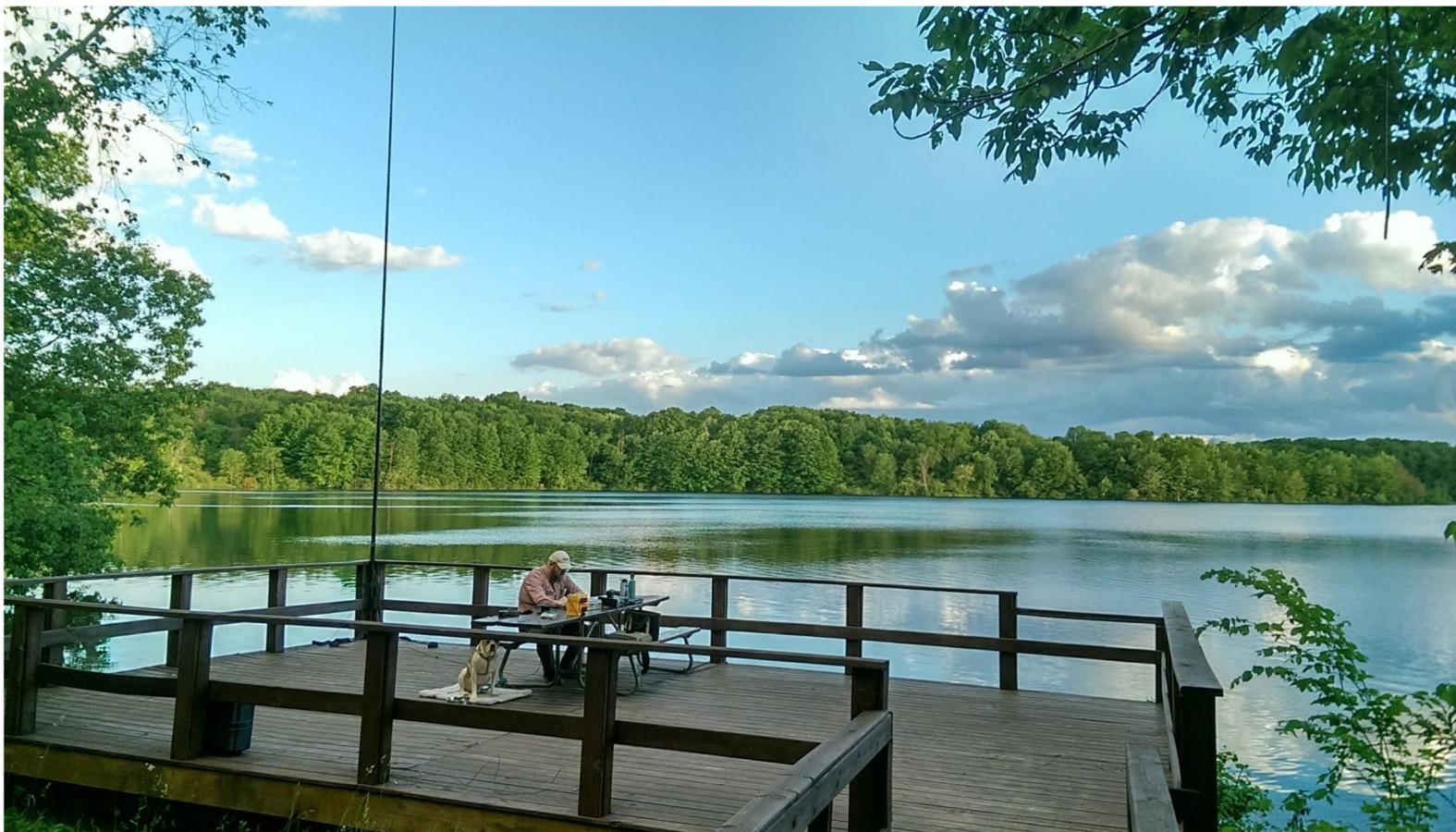
Combination  
SOTA + POTA



Mike/N3VOP  
Picnic Table  
portable

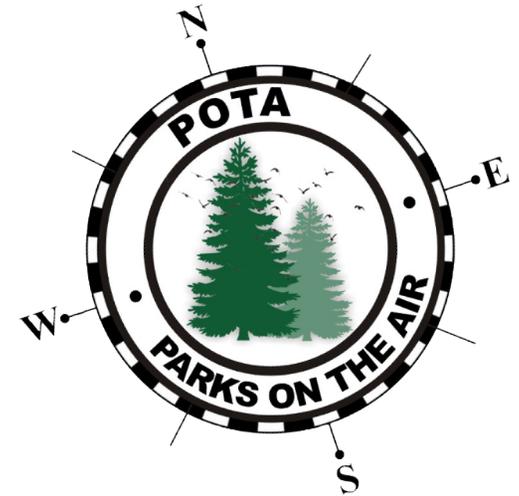


# Activate from a picnic table



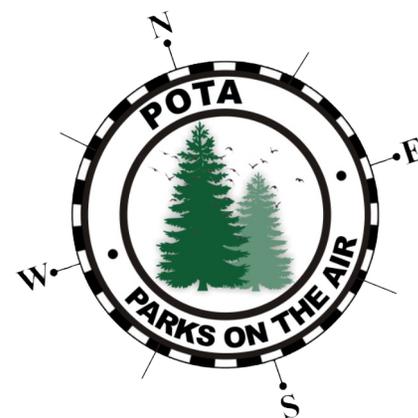
Thom W8TAM  
K-3314  
Ionia Rec Area  
Michigan

Or bring your own table!



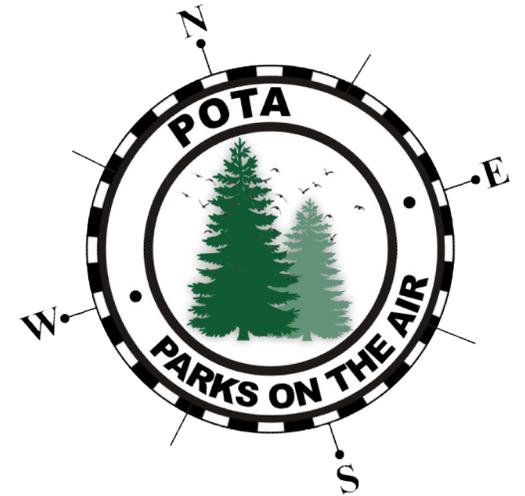
Pat AAØØ  
K-5478  
Tioga State Forest  
Pennsylvania

# Activate from your vehicle!



Tricia K0TRD  
K-4402  
Gunnison National  
Forest, Colorado

Activate a beach, using a chair as a table



Pat AAØØ

K-0256

St. Marks National  
Wildlife Refuge – St  
Marks Lighthouse  
Florida



## Activate as a group



W4E special event station  
(N1COR, WU2F, AAØO,  
W4MMY)

K-1863  
Egmont Key State Park  
Florida

## Wolf River Coil antenna



Justin Sligh  
KN4MQR  
K-1843 Bulow  
Creek State Park  
Florida

# How do I activate a POTA park?

Make 10 QSOs on one UTC day while inside the boundaries of the park on any band your privileges allow

Utilize any simplex mode (no repeaters but satellite QSOs are allowed) HF, VHF & UHF

POTA recommends operating in the General bands but has no specific calling frequencies.

There is no specific exchange beyond callsign, although the traditional RST is usually given along with QTH.

Log the date, time, and band in your favorite logging program and export as an **ADIF**. Email this **ADIF** file to your POTA call area coordinator

The POTA file naming convention is: **K0NR-K-4404-20211017.adi**  
Callsign – Park # - Date

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## How do I call CQ ?

On SSB any variation of the following:

“CQ Parks on the Air CQ POTA  
This is KØNR activating Park K-4404”



On CW we often hear:

“CQ POTA N2CX N2CX K0710 K”

Then put yourself on the POTA Spotter and you will be hunted!

Schedule an activation and the CW Reverse Beacon Network (RBN) can pick up your signal and you'll be automatically spotted!

To get spotted by the RBN, repeat your callsign twice like “CQ POTA W3AAX W3AAX K3331 K”

## Add Spot

Activator

Spotter

Frequency

Reference

Comments

\*indicates required field

[CLOSE](#)

[SAVE](#)

Paper Log

Frequency	UTC Date	UTC Time	DE Call Sign	DE Signal	DX Signal	
106	1-24-22	19:09	W0HTH	5/9		Grid DM
		:15	N0DJW	5/9		
		22	K0BND	5/7	5/7	NE
		24	K0BE	5/7	5/8	CD
			KI7LVI	5/9		UT
		27	K7DLI	5/9		UT
			W0SAFR	5/5	5/7	NM
		29	K0MAP	5/9		CD
		33	W0DTM	4/4	5/6	MD
		34	W5MUT	5/3	5/5	AR
			N8HDQ	5/5	5/7	MD
			N1SMB	5/9	5/5	CD
		38	W9MXC	4/4		IL
		40	K0GRI	5/9		CD
			W6BKM	5/5	5/7	CA
			N5HDG	5/2	4/4	AR
			K0FVR	5/8	4/4	CD
		20:21	K6RBM	5/2	5/5	K-4
		28	NV4H	5/9	5/9	K-4
			K8AT		5/9	Bob
		21:19	W7RTA	4/3	5/7	K-4

# Logging

Software Log

The screenshot shows the HAMRS (HAM Radio Made Really Simple) logging software interface. The main header displays "HAMRS - Every Day is Field Day" and "Logbooks". The user's call sign, "CDT K-4558 KONR", is prominently displayed. The interface includes several input fields for logging a QSO: "THEIR CALLSIGN" (WGOAT), "RST SENT" (59), "RST RCVD" (59), "THEIR PARK" (Comma separated), "COMMENTS", "TIME" (03:09), and "DATE" (06-Sep-2021). On the right side, there are fields for "FREQUENCY" (14.061 MHz), "BAND" (20m), "POWER (W)", "MODE" (CW), "MY PARK" (K-4558), and "MY CALLSIGN" (KONR). Below the form, there is a table of "Entries" with 57 total entries. The table columns are: TIME ON, CALLSIGN, RST I, RST J, STATE, FREQUENCY, BAND, MODE, THEIR PARK, and a search icon. The visible entries are:

TIME ON	CALLSIGN	RST I	RST J	STATE	FREQUENCY	BAND	MODE	THEIR PARK
18:03	W9YB	59	59		14.293	20m	SSB	
18:02	K5RAR	59	59		14.293	20m	SSB	
18:02	N8SCO	59	59		14.293	20m	SSB	

Popular Logging Software:  
N3PFJ AC Log, HAMRS, N1MM

# Why would you enjoy portable activation?

- Typically a lower noise floor and very often beautiful views and opportunities for wildlife watching.
- Every activation has different challenges: terrain, space constraints, weather, accessibility.
- It's an opportunity to perfect your portable radio kit, always evolving it to suit your operating style.
- It makes you a better operator and keeps your skills sharp.
- You will make friends all over the world

You become the DX!



***And Hearing***

*"Thanks for the new one!"*

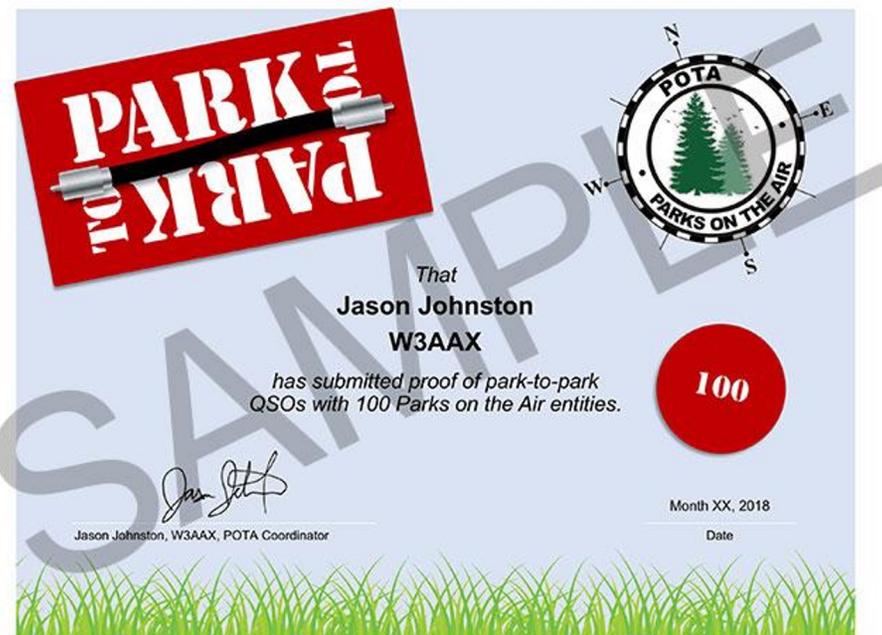
*"Thanks for activating!"*

*"Thanks for the park to park!"*

*"Have fun out there!"*

# Activator Awards

Incremental awards, for each level of unique parks activated.



Park-to-Park awards for communications between portable operations at POTA references.

# How does it work for Hunters?

- Create an account at [parksontheair.com](http://parksontheair.com)
- Make the QSO & a post a fresh spot if warranted
- No log submission is necessary
- Check your dashboard for stats at [parksontheair.com](http://parksontheair.com)



Reference	Park Name	Location	Date - Time	Band	Mode	Station
K-0014	Channel Islands National Park	California	2019-02-18 21:08:23	20M	CW	WM6Y
K-0015	Chesapeake and Ohio Canal National Historical Park	Maryland	2018-01-15 16:26:00	20M	PHONE	K4VDX
K-0017	Congaree National Park	South Carolina	2019-01-14 20:39:00	40M	PHONE	K4CAE
K-0023	Dry Tortugas National Park	Florida	2018-12-16 03:04:00	40M	PHONE	WX4TV
K-0027	Gettysburg National Military Park	Pennsylvania	2019-04-01 23:25:00	40M	PHONE	KB3WAV
K-0064	Shenandoah National Park	Virginia	2019-01-27 20:27:00	40M	PHONE	KC3RW
K-0377	Mingo National Wildlife Refuge	Missouri	2018-03-09 22:43:00	40M	PHONE	K0ATZ
K-0453	Edwin B. Forsythe National Wildlife Refuge	New Jersey	2018-04-21 17:41:00	20M	PHONE	KD2DLY
K-0483	Ottawa National Wildlife Refuge	Ohio	2018-05-04 21:32:00	20M	PHONE	K8VOX
K-0662	Chattahoochee River National Recreation Area	Georgia	2018-06-09 15:46:19	40M	PHONE	AD4XT
K-0691	Prince William Forest Park	Virginia	2019-02-25 17:25:00	20M	PHONE	NS4J
K-0702	Cowpens National Battlefield	South Carolina	2019-03-10 18:47:00	40M	PHONE	K4CAE
K-0711	Kennesaw Mountain National Battlefield	Georgia	2018-12-31 20:18:09	40M	PHONE	AD4XT
K-0772	De Soto National Memorial	Florida	2018-04-21 17:17:00	20M	PHONE	KK1TLS

### Active Spots

Data will automatically refresh every 60 seconds.

#### N2CX @ K-1619 High Point

- 📍 K-1619, US-NJ
- 📡 10115.5 kHz / MHz, CW
- 📄 K9IMM
- 🗣️ RBN 15 dB via K9IMM-#
- 🕒 Last heard 1 minute ago at 22:13 UTC

#### K-4999 @ K-4999 Stokes

- 📍 K-4999, US-NJ
- 📡 14272 kHz / MHz,
- 📄 KD2GIY
- 🗣️ On aprs
- 🕒 Last heard 6 minutes ago at 22:08 UTC

#### K4WK @ K-0034 Great Smoky Mountains

- 📍 K-0034, US-NC US-TN
- 📡 7244 kHz / MHz,
- 📄 K4WK
- 🗣️ POTA K0034
- 🕒 Last heard 7 minutes ago at 22:07 UTC

#### AD4XT @ K-2173 F.D. Roosevelt

- 📍 K-2173, US-GA
- 📡 7278 kHz / MHz,
- 📄 AD4XT
- 🗣️ FDR st. Park in GA
- 🕒 Last heard 9 minutes ago at 22:04 UTC

#### K1YAH @ K-2193 Panola Mountain

- 📍 K-2193, US-GA
- 📡 7250 kHz / MHz,
- 📄 NX1Q
- 🗣️ Panola mountain State Park, Georgia
- 🕒 Last heard 15 minutes ago at 21:58 UTC

#### KF9UP @ K-2266 Prophetstown

- 📍 K-2266, US-IN
- 📡 7240 kHz / MHz,
- 📄 KF9UP
- 🗣️ No spot information
- 🕒 Last heard 19 minutes ago at 21:54 UTC

### Today's Activations

# Hunter Awards

Incremental awards, for each level of unique parks hunted.



Or hunting all POTA references in a state or province. Many more awards are available!

# SOTA vs POTA

## SOTA



- Summits!
- Hiking oriented  
(Non-motorized ascent)
- No commercial power or fossil fuel generators
- Not attached to a vehicle
- 4 QSOs to get activator points

## POTA



- Parks!
- Hiking, vehicle, camping, very flexible
- Any power source
- Vehicle operation is OK
- 10 QSOs for a successful activation

Note: you can do a combination SOTA / POTA activation (summit located in a park)

# Getting Started (SOTA and POTA)

Register with SOTA and/or POTA websites

Start by Chasing / Hunting

Use the spotting websites and apps to find activators

Try an easy activation

- Not far from home
- Choose a band/mode that you are comfortable with
- Minimize the number of variables
- Tag along with an experienced activator

# Resources



## SOTA

- Main SOTA site  
<https://www.sota.org.uk>
- SOTA Atlas  
<https://sotl.as>
- Colorado 14er Event  
<http://ham14er.org>
- W0C SOTA Group  
<https://w0c-sota.groups.io>
- NA SOTA Group  
<https://nasota.groups.io>



## POTA

- POTA web site  
<https://parksontheair.com>
- POTA app site  
<https://pota.app>
- Colorado POTA Group  
<https://co-pota.groups.io>

Q&A



SOTA and POTA both:

Combine ham radio and the great outdoors

Include hunters/chasers operating from home