Hitting the Heights with Summits on the Air

If you enjoy outdoor exploration, radio experimentation, and being part of an enthusiastic, active community, the SOTA program offers all that and more.

David Wise, KM3A

I'm an avid hiker, however, I frequently discovered I lacked reliable communication while on hikes. As a Marine deployed to Iraq and Afghanistan, I had routinely assisted with erecting the field antenna system, and I wondered if there was a way to establish reliable communication on my hikes as a civilian.

I got my answer when a friend introduced me to ham radio. I got my Technician license in March 2018, and upgraded to General that summer, but was disappointed that my condo complex didn't allow the installation of a high frequency (HF) antenna. I would have to find another way to get full enjoyment out of the HF bands.

Stumbling Upon SOTA

Through an internet search, I stumbled upon Summits on the Air (sota.org.uk), an "award scheme for radio amateurs that encourages portable operation in mountainous areas." In short, the program grants points to amateur radio operators who hike to the top of a designated summit and subsequently make four contacts — an activity known as an *activation*. Point values for activations vary on a scale of 1 to 10, based on the peak's altitude. Points are also awarded to hams who make contact with the activator — these hams are called *chasers*. Activators earn points toward the title "SOTA Goat," while chasers earn points toward the title "Shack Sloth." Both awards are set at 1,000 points. I decided to give it a try.

I researched local summits on sotamaps.org and decided that my first activation would be Niguel Hill, referenced in the SOTA database as W6/SC-371. SOTA summits are organized first by region (W6 = California) then by mountain range (SC = Southern Coastal) and finally by a sequential index number (in this case, 371). Niguel Hill was an accessible 1-point "drive-up" peak. This easy access would allow me more time to focus on my equipment and making contacts.

The First Two Activations

On January 1, 2019, I activated Niguel Hill, bringing a Yaesu FT-817, a 10 amp-hour battery, a magnetic loop antenna, and an antenna tuner, antenna analyzer, headphones, and coaxial cable. I would eventually realize this was too much equipment; however, using this setup and only 5 watts (a low-power style of operating known as *QRP*), I made contacts in Kansas, Oklahoma, Arkansas, and Washington state — enough to qualify Niguel Hill as my first official SOTA activation.

I was so excited that, one week later, I activated Mt. Baldy (W6/CT-003), which sits at 10,064' and required an 11-mile hike (in the snow) and a 4,000' elevation gain. Given my success on Niguel Hill, I felt confident and accepted the additional physical exertion required to get to the Mt. Baldy summit — a successful winter activation of this peak would add 11 points to my total. I carried the same equipment I brought to Niguel Hill; however, I didn't make any HF contacts. My pack was loaded with unnecessary gear, I was fatigued, and I had issues with the magnetic loop. Fortunately, I used my handheld to activate the summit using the 2-meter VHF band. One contact was with Scott Lindquist, NØOI, on Keller Peak (W6/CT-013) — SOTA aficionados refer to this as a *summit to summit* contact.

Early Lessons Learned

At home, I visited QRZ.com to check the call signs I logged, and noted that Scott was experienced in SOTA activations. I reached out to him, and we arranged to meet. In talking to Scott, I learned the following:

- SOTA radios do not have to be expensive. My used, entry-level Yaesu FT-817 was a smart choice for SOTA, given the low cost and high capability of the radio.
- Low-power (QRP) radios can be powered from small, lightweight batteries. I switched to a 4 amp-hour LiFePo4, which reduced my pack weight by 2 pounds.
- Keep antennas simple. An end-fed half-wave or tuned dipole reduces failure points and weight, although it does require a "mast" (consider a 6- to 10-meter carp fishing pole) or tree to deploy.
- Morse code, a favorite among SOTA activators, allows for additional reductions in weight and gear complexity.
- Set alerts via mobile apps, such as *SOTA Spotter* or *VK port-a-log*, via Automated Packet Reporting System (APRS2SOTA), or from the website sotawatch.sota.org.uk before you leave for your activation, and request *spots* (confirmations that your activity has begun) from chasers once you're at the summit. This will drive chasers to your frequency and help ensure that you make the four contacts SOTA requires for an official activation.
- Prepare for adversity. Redundancy assists in reducing the possibility of failure, so consider bringing two batteries and different transmission modes (VHF and HF). Test your equipment before deployment.
- Social media is great for networking. Seek out SOTA enthusiasts on YouTube, Instagram, Twitter, and the web, and consider joining a local expedition.

Exploring and Learning

Exactly one year later, in January 2020, I had activated 49 SOTA summits, made 420 contacts (including many with other countries, islands, and so on, which hams refer to as *DX entities*), hiked approximately 225 miles, gained 270 SOTA points, and, along with four other SOTA enthusiasts (NØOI, N2ZIP, K6LZT, and KN6ENX), started SoCal SOTA, AB3G. Although SOTA clubs are not allowed to accumulate points, we can use the club call sign when we activate summits. The club also allows local SOTA enthusiasts to collectively plan future expeditions, and encourages newer operators to join an expedition to build confidence.

The SOTA program provides endless opportunities to explore the outdoors and to experiment with antenna systems. SOTA activities can be scaled based on your own abilities, interests, and personal goals. An activation can take 10 minutes or multiple hours. You can make contacts that are distant or local. You can drive up to the peak, or hike several miles. There is no single "right" way to do SOTA.

If you like exploration, challenge, and being part of a like-minded international community, SOTA may be an excellent fit for you. It's safe to say that I'm hooked.

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Learn More on the *OTA* Blog

For more tips on how to locate and choose a SOTA peak, and what kind of gear to use for your activation, read "Radio Operating from Summits" by Bob Witte, KØNR, on the *On the Air* blog at arrl.org/ota-blog.

The SOTA program takes hams to some dramatic locations, such as Mt. Baldy in southern California.