

Land Ops — Off Road and On the Air

This unique ham radio club, 350 members strong, keeps their skills on point in exercises that are a mashup of ham radio communication, off-road driving skills, GPS and map navigation, geocaching, and teamwork.



Jim Biram, K6JKB

Land Ops founder Chris Doering, KI6QBM, arrived at Monache Meadows on a Thursday afternoon to set up his camp and net control for the event that would be held that Saturday. The Monache Meadows Op, in Sequoia National Forest at the southern end of the Sierra Nevada mountains in California, would take place at an altitude over 7,000 feet, in an isolated location, with the nearest cell service almost 2 hours away. Communications would fall to ham radio, mostly on 2 meters (which, despite the mountain peaks, is pretty effective in this area).

Greg Lund, K6GHL, and his wife, Candy, KC6ROX, arrived to help Chris set up the net control station, which included a high-gain antenna as well as batteries, generators, a computer, and other equipment to manage the Op. With net control established, they started to assemble mesh networking nodes, which would be placed along the event's course the following day.

Setting the Course

Early Friday morning, Fernando Ramirez, KJ6YOS, and Chris set out on the 4-hour task of creating the course. They started at the final destination and worked back to the individual starting points for each of three teams of four or five vehicles. Along the way, they hid small boxes in brushy areas, noting the GPS coordinates of each one. Some of these caches contained instructions that would need to be communicated to other teams, either by radio or by some other means of communication.

In this case, the teams would have to communicate with signal mirrors to unlock a code for a set of coordinates. A team that got the code wrong could end up miles from the correct location.

While the course was being laid out, a group of volunteers known as the Special Comms Team worked together to set out the portable mesh networking nodes that had been

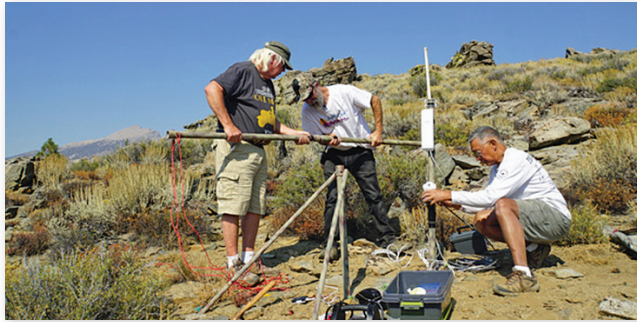


Land Ops founder Chris Doering, KI6QBM, gearing up for another adventure combining ham radio, off roading, and orienteering.

assembled the day before. Each node contained battery packs, an IP camera, and a telephone, along with a directional antenna focused a mile away, back to net control.

“ Participants learn about ham radio protocol in a beautiful outdoor setting, while building friendships. ”

The Special Comms Team sets up one of the mesh nodes. Teams made contact with net control over the mesh.



Team Alpha via ham radio. But when it was time for Team Charley to signal back, they were still in the shade and had to improvise. Someone grabbed a powerful flashlight and made the corresponding signal back to Team Alpha, which was confirmed via radio.

With each team having completed the mirror-signaling objective, they went on their way to the next objective. The game continued for 2 more hours, with each team getting to the northernmost section of Monache Meadows after a water crossing, where they found their final cache and returned to base.

So Much More

This is just a glimpse into a typical Land Ops adventure. Other Ops have included a search and rescue drill, in which a vehicle is “missing” and there are “souls” that need to be found. Other times, members serve as communication volunteers at other activities, such as running or racing events. Land Ops members have been complimented by CERT, RACES, and ARES members on the radio skill and professionalism that they demonstrate.

Jim Biram, K6JKB, has been a licensed ham since 2012, and holds a General-class license. An avid outdoorsman who loves to explore in his Land Rover, Jim is a member of SOARA (South Orange Amateur Radio Association), Land Ops ARC, and SCLR (Southern California Land Rovers). His ham radio use is primarily for off-road communication using 2 meters and 70 centimeters, however he also volunteers for race communications for The Old Goat series of ultra-marathons, and has volunteered for radio communications for the Baker to Vegas Relay Race. Jim is a partner in Resco Properties, a property development and management company in Newport Beach, California. Jim has been married to Linda for 37 years, and has two adult children. He can be reached at k6jkb@arrl.net.

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Net control set up and ready for the Op to begin.

On Friday night, many operatives arrived with camping gear and food to get ready for Saturday’s event. The cold night — around 32 degrees at dawn — was nothing new for the Land Ops crew.

About Land Ops

Founded in 2009, Land Ops conducts adventures — known as “Ops” — in California, Colorado, Arizona, Utah, and Nevada. Ops are held a few times each month, and focus on the general areas of off-road driving, navigation, radio and signal communications, vehicle recovery, night operations, and search and rescue drills. Some Ops include hiking, rappelling, and working with drones. All exercises are carefully choreographed and rely heavily on teamwork. Each Op involves two or more teams navigating an unknown course, sometimes at night. Teams report to a net control station within the region and find their way along the course by acquiring a series of hidden caches with special instructions. Visit www.LandOps.org to watch Land Ops founder Chris Doering’s, KI6QBM, videos of the Monache Meadows Op and other Land Ops activities.

The Op Begins

Saturday, the day of the Op, more club members drove in for the event — some from as far away as the San Francisco area, while others came from southern Orange County, a drive of 6 to 7 hours. The Monache Meadows Op’s three teams — Alpha, Bravo, and Charley — would follow three course lines, on different objectives, ultimately to rendezvous at the same location, then back to the net control area.

At 13:00 hours, each of the teams was given rendezvous coordinates, where they would wait with their teammates until receiving instruction from net control to begin.

Team Charley got to their first cache and found out they’d have to perform a signaling exercise with a mirror to reach Team Alpha — just as clouds began to form over both teams. The sun peeked through just enough for Team Alpha to communicate the SOS signal with the mirror, and Team Charley successfully confirmed with