



High-Country Static

Welcome Spring

April 2014 News and Information
Concerning Amateur Radio in Northern
Arizona and Beyond

For comments, suggestions, questions concerning the CARC newsletter please click
cocoazham@yahoo.com

Welcome to the Coconino Amateur Radio Club (CARC) Monthly Newsletter. CARC is a non-profit club devoted to providing communication services to local volunteer agencies and events. Meetings are held the second Thursday of each month **1650 S. Plaza Way**, Flagstaff, at 7:00PM. All persons interested in amateur radio, whether licensed or not, are welcome to attend.

Coconino SkyWarn meets 1900 every Monday evening on the 146.98 repeater and at 1930 on the Navajo Mountain CACTUS repeater and 146.480 simplex.

*Coconino ARES meets 1900 every Wednesday evening on the 146.98 repeater and at 1930 on the Navajo Mountain CACTUS repeater and 146.480 .
simplex..*

New location for CARC meetings: 1650 S. Plaza Way. Pull in off S. Plaza Way and go to the far left behind the building on the left. (There are two buildings, both behind the vacant Sun West bank on Woodlands Blvd.)

Our meeting room is in the building on the left. Jason will have the door propped open. Big thanks to Bruce Sidlinger who is not only providing this room to CARC for free, but bought a table and some chairs for our use!

Officers:

President: Jason Bennett KG7CZS
Vice-President: Sandy Meadowcroft KF4JHC
Secretary: Erv Perelstein, KE7QFI
Treasurer: Pat Traber, KE7QFG
PIO: Phyllis Thompson

sandymeado2@yahoo.com KF4JHC

We will be needing a new PIO come summer as Phyllis will be vacating the office. If you are interested please see Jason or Phyllis.

April 10 next meeting - NEW LOCATION!

If you have not paid your 2014 dues yet please do so at this meeting: \$25 for individuals and \$30 for a family.

Thank you to all who have ran the Monday and Wednesday night nets:
Jason, Dan, Pat, and Erv.

Next licensing exams

April 12 ? Exams at NAU Bilby Research Center

July 19 Williams Hamfest/AZ State Convention Licensing Exam

Oct 18 License Exam

Upcoming 2014 Events: Not all dates available yet

April 25-26 (PFAC) exercise

? Mormon Lake

May 16 - 18 Overland Expo Mormon Lake

Jun 7 Sacred Mountain Prayer Run

Thorpe Park Picnic Ramada

June 28-29 Field Day 2014

Jul 20 Snow Bowl Hill Climb

Jul 25-26 Possible AZ ScQRPions QRP Club

Hamfest at Fort Tuthill

August 2 Toys for Tots / Fat Tire Bicycle Ride

August 5 National Night Out (Tuesday)

Aug 9 Big Brothers / Big Sisters Run for the

Magic

Sep 1 Williams 10k Labor Day Run

Sep 27, 28 Flagstaff to Grand Canyon Run
100 Relay Run - 30 hour event

Oct TBD Northland Preparatory Academy
solar observing

Oct 3-5 Flagstaff Endurance Runs (Fri-Sun)

Oct. 11 8:00 am Soulstice Mountain Trail Run

Nov 5 Possible Arizona State Exercise

Dec 6 SkyWarn Recognition Day at NWS
Belmont (UTC date)

TBD Christmas Party

Field Day 2014 is June 28-29

Past Events of 2013:

Feb 6 Palo Verde plume exercise #1

Feb 19 Coconino County Tabletop TICP

Mar 6 Palo Verde plume exercise #2

April 20 12:00? Tour of NAU Solar Shack
by Devon Dyreson

April 27 Ponderosa Fire Advisory Council
(PFAC) exercise Ft Valley area

Jun 1 Sacred Mountain Prayer Run

May 17 - 19 Amateur Radio Demonstrations,
Class, & Exams at Overland Expo (Mormon
Lake)

May 18 - 19 MS-150 Yavapai County ARES
needs help

Jun 22 - 23 Field Day (Setup 21 June)

Jul 21 Snow Bowl Hill Climb

Aug 3 Toys for Tots / Fat Tire Bicycle Ride

Aug 2-3 Arizona ScQRPions Hamfest at Ft

Tuthill

Aug 6 National Night Out (Tuesday)

Aug 10 Big Brothers / Big Sisters Run for the
Magic

Aug 17 Ponderosa Hustle – Good opportunity
for new hams (2 hours near Arboretum & Naval
Observatory)

Sep 2 Williams 10K Labor Day Run

Sep 14 Flagstaff 50 Endurance Run (Ultra-
Marathon) **

Oct 12 Soulstice Mountain Trail Run

Oct 19 Boy Scout Jamboree- the Northern
Arizona DX Association will be working with
scouts that weekend.

Oct 19-20 Flagstaff 100 Relay Run - 30 hour
event

MINUTES OF THE COCONINO AMATEUR RADIO CLUB MEETING

March 13, 2014

Submitted by Phyllis Thompson, Public Information Officer, sitting in temporarily for Erv Perelstein

Meeting started at: 7:00 pm

Guest: Megan Schwitzer, general forecaster, National Weather Service Flagstaff. She gave a brief

version of the NWS Weather Spotter training, stressing that spotters are “eyes on the ground” to fill in the gaps technology cannot reach. They are especially needed in Northern Arizona where population is so spread out. Radio operators are valuable because they can submit reports from places beyond phone coverage and when other communication systems are down. She provided several handouts and also referred us to an online SKYWARN spotter training course available at https://www.meted.ucar.edu/training_course.php?id=23

Secretary's Report: February minutes were not read because they were published in the February newsletter for all members to read. Phyllis suggested a revision of the last line of the President's report to read: *There were several suggestions for alternate meeting places: the public libraries, possibly a church, or Bruce Sidlinger's new space behind the former Sun West building on the west side (we would have to bring our own chairs).* Mike moved to accept the revision, Diane seconded. Unanimously accepted.

Treasurer's Report: The ending balance as of 3/13/2014 was \$2,824.37. \$240 was received in dues and \$13 from the 50-50 drawing. Total paid membership for the year is 34, with 31 paid members and 3 lifetime members. Scott moved to accept the report, Mike seconded. Unanimously accepted.

President's Report: Discussion items included:

- Who gets the Communication List from Sandy Meadowcroft. Queries for information were first sent to the whole CARC listserve. Responses were organized by Sandy and the general plan is that the final list of contact information will be sent to paid CARC members only. Pat stresses that this policy is not rigid.
- Jason needs backup for the ARES net on Wednesdays because he cannot always hear the repeater during bad weather. Please contact him via email. Pat observes that we need to establish a regular rotation, so that people become comfortable and familiar with running a net before they are needed in an emergency.
- Jason observes that it is still not clear if we can keep the space at LEAF. Scott suggests we take Bruce up on his offer to meet in one of his buildings. Arguments in favor of making the move included (1) LEAF now locks the doors at 7 pm; (2) refreshments are possible at Bruce's; (3) our taking the initiative to move out of LEAF might make it easier on anyone who has the responsibility to ask us to leave. It is generally agreed that we should try to hold the April meeting in the new location. Al suggests we write a letter to LEAF thanking them for letting us use this facility. Phyllis will draft something for discussion at the next meeting.
- Field Day: Will be held June 28-29 at Silver Saddle Outdoor Market, 9001 N. Hwy 89, Flagstaff 86004. 5 acres are available, there will be 2 teepees and the permanent market. Maybe CERT will want to put up an information booth. Scott expects portapotties and the Silver Saddle Market has bathrooms during the day.
- Bob Wertz has contacted Joe suggesting that CARC and the DX club work together again in 2014. All agree that this is fine, but we need to be clear that we are purchasing our own antenna and will be using our own tower for this.

Other discussion:

- Scott says Ron Gurlak has offered to help with the website when he returns for the summer.
- He also reported that Joe Hobart and Rob Rowley and Mark Christian from Coconino County Emergency Management travelled to Page to look at a communication project for Navajo County
- Scott and Pat both reported small communities that are going active already for the 2014 fire season

- Pat confirmed that Pinewood will make their CPR course available to ham radio operators for the cost of the card (\$5), if there is space. Scott observed that Summit also offers a family program and that FUSD may also offer something.
- Scott asks if it's OK to move the CARC trailer to the Silver Saddle Market on weekends soon, for advertising. He can put out the CARC flag and may also be able to put up 20' of the antenna. The plans were moved and seconded separately and both passed unanimously.
- Discussion of whether we are ready to put in an order for more CARC orange vests. They sell for \$11. Pat would like a minimum of 12 people committed to buy one before she orders. Only paid members can buy a vest.

ARES Report: *Not given because Joe Hobart was involved helping with the Northland Preparatory Academy balloon launch, along with other CARC members.*

Meeting adjourned: 8:50 pm

Drawing won by Jason Bennett - \$11.00

Arizona Newsletter: <http://www.arrrl.org/>

Tutorials: <http://www.arrrl.org/tutorials>

Great Information:

20 Meter Dipole Experiments

The 20 meter band has been a favorite band to work lately and I have been experimenting with various arrangements of dipoles to see what could be done to improve performance. I run a Kenwood 830 with Kenwood AT230 antenna tuner. I kind of like the fact that I'm old fashion in most things I do and sort of go out of my way to stay that way. For example, next to the Kenwood 830 is a BC-348 aircraft receiver that I love to keep functioning, even though it's a pain to use. While I live in the County on acreage, I've never taken the time to put up a tower. I just like the sound of the phrase "Antenna Farm" and while not yet to the fullness of Scott's farm, I'm working on it.

My original 20 meter antenna is a standard dipole hung about 35' up with a current balun and a coax into the shack. I like this antenna a lot and have had good performance out of it. But my curiosity, after reading about derivatives of this basic antenna, have inspired me to experiment with the basic design to see what performance changes might occur with these derivatives.

The first alternative I tried was a folded dipole made of standard 300 ohm twin lead, cut to the appropriate length, terminated in a 4:1 balun, and coax into the shack. This turned out to have a bit more gain, but the major difference is the broader, flatter, tuning this antenna facilitates. It's a better antenna, though more difficult to make. One problem with twin lead antennas is that the lead wires are thinner and more fragile than other types of antenna wire and therefore more fragile when connected to baluns. That is, it lacks strength at the termination point and breaks frequently in the wind. But overall, while slightly more complicated to build than a standard dipole, however, it is indeed a better antenna.

The second 20 meter alternative antenna I just finished is a double extended Zep. There are several articles in the ARRL Antenna books that cover both the theory and construction of dipoles, zeps, double zeps, and extended double zeps, including the math to determine lengths. In this case, the legs of any extended zep are $\frac{5}{8}$ wavelengths, so 44 feet each leg for a 20 meter antenna. Interestingly, feeding the system with 9.53' of 450 ohm ladder get's you to the impedance you need to

run coax from there into the shack. The antenna is fed through a 1:1 current balun. Using my MFJ-259 I measure mid-band impedance at slightly over 50 ohms, and SWR at 1.15, no tuner. The antenna is tuned by trimming the 9.53' ladder line.

This antenna turned out to be a lot of fun to figure out and build. I find it to have more gain, as advertised, than either the standard dipole or the folded dipole, and it is noticeably quieter than either as well. Switching around between these three antennas you can hear that the signal to noise ratio of the double extended zep is noticeably better, not only because the signal is a bit stronger, but also because the "noise" is somewhat suppressed. This is the antenna that will stay up, and likely I'll build a 40 meter version shortly.

Rather than construct the antenna from scratch I bought the MFJ-1778 antenna kit, which is a bit longer than needed, and has 450 ohm feeder line, also too long. Other than cutting things to the proper length, the only change I really needed to work out was terminating the ladder line to the 1:1 balun. Here, I took a piece of fiberglass sheet and cut slots for the twin lead to act as a strain relief, and holes to wire tie the balun to the sheet. It has stood up to this recent wind very well, so time will tell.