



RADIO AMATEUR NEWS & VIEWS

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FIELD DAY RESULTS

Mitch W1SJ

The Field Day results are in and the logs have been submitted. With the score down by 1800 points and the QSO's down by 870, we can hardly claim a superior result. As this was a Murphy year, we should be glad what we were able to accomplish. And despite all of the power supply glitches, computer glitches, generator issues, dipole issues and yagi pointing issues, the score was overwhelmingly affected by poor propagation, which we had no control over anyway.

The Field Day propagation forecast was ominous. During the week, Coronal Mass Ejections from the sun were kicking out charged particles towards the earth. Those particles caused the Earth's geomagnetic field to become unstable. That, in turn affects propagation, more so in the northern latitudes (where we are). In the days leading up to Field Day, 20 meters sounded like a tomb. Even as I was testing the yagis Friday and later testing the stations on Saturday, I heard little on 20 meters and was somewhat concerned. By the time Field Day started, it was painfully obvious that things were not right. A lot fewer stations were heard, and those who I did hear were weak. Most of the stations we worked were Field Day groups – missing were the many low power "1D" operators from home. Evidently they found something else to do. Normally we work 1700 stations on 20 meter phone. This year, that dropped to 700 stations. Trust me – we tried everything.

Everyone was saying, "Hopefully this bad propagation is affecting everyone!" Well, not exactly. With the poor conditions, many stations focused primarily on CW. As they say, CW gets through when conditions are poor, and that is correct. And for long periods of time, our CW station was running good rates on 20 meters, while our phone station couldn't buy a contact.

Some would say, "Why didn't we do more CW?" That's easier said than done. To put the phone station on CW would require the computers to be networked across a span of 500 feet. And, this would require more CW operators, which we have few of. Ultimately, we WIN the category with our operating style. From a strategy standpoint, you try to stick with your position of strength. If I play Monday morning quarterback, I don't think switching up would have helped us that much.

Continued...

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Meetings: 2nd Tuesday • 7:00 PM
113 Patchen Road, South
Burlington

The O'Brien Civic Center

Repeater: 145.150, PL 100; WB1QR

New Hams, Mentoring:
RANVMentor@gmail.com

There will be no celebratory cake at the holiday party this year. We scored 12202 points (14016 last year). From the reported scores I can see, we are in 4th place, and likely 5th place if I figure in other stations who didn't report yet. It looks like K5TU in Texas ran up 14,000 points running mostly CW. But they were helped in a big way with close to 1000 QSO's on 10 and 6 meters, where we could only muster 120 QSO's. Take away those 1000 QSO's and we are essentially in a flat footed tie. KC0MO from Kansas ran up 13,000 points, but again, grabbed 750 QSO's on 10 and 6 meters. K5FD in Texas will end up in the mid 12,000's. I suspect K5UZ in Arkansas will also be in this group, but I haven't seen a score from them. To underscore the lopsided conditions between phone and CW, our 2334 QSO's on phone is more than just about anyone. You would have to look at groups like W6ARA running 4A from California who just edged us out on phone QSO's. That tells us that our phone station was working but the Q's were just not there.

It is easy to get discouraged by this, but seasoned contesters know all too well that the game is rigged. When the propagation is not with you, you don't do well, and all the crying in the world won't change that. Instead, let's work on what we can. First, we still put up a very competitive score – likely the highest in the Northeast. Our 25 participants (close to 40, if you count visitors) puts us in the category of a large, well-attended Field Day group. And we pulled this off while it was rainy and windy for half the time.

But we must focus in on the things which need improvement. Clearly there is an issue with RF getting into things which it must not, causing all sorts of bad things to happen. It will be our focus to clean all that up for next year. Some of the problems were human error and we will continue to put procedures in place to address those. And finally, we still need to recruit new people. The GOTA ops have been doing their job for a number of years, and we need to see more new faces. And we have bombed on the youth bonus with only 1 youth operator, where we need 5 to get the maximum credit. Looking at the lack of young people at our other events, like at meetings, the picnic and HAM-CON indicates that this is an overall larger problem which needs to be addressed.

Thank you for your efforts and be sure to acknowledge all the hard work all the people on the Field Day Hall of Fame list put into this. It is no accident that we remain one of the best Field Day operations in the nation.

NEW ENGLAND DIVISION CONVENTION

The New England Division Convention, commonly known as "Boxboro" will take place this year on August 21-23 at the Holiday Inn in Boxborough, Massachusetts. Normally held every even year, the committee has decided to run the convention annually.

Boxboro is much like HAM-CON in that the focus is on Forums and Activities. There is a flea market, but if you are expecting Deerfield, it is not.

Friday is the training day. In the morning, Gordon West will run his Instructor Academy and in the afternoon there will be a SKYWARN training.

The main part of the convention is on Saturday. Some of the 26 forums that day include: Gordon West, Elecraft, The Doctor is In, ARRL, AM Forum, Mobile HF, QRP, Station Building and Operating. If many of these look familiar to those you have seen at HAM-CON, that is no accident. Great Conventions tend to think alike!

Boxboro is well known for some of their great Fox Hunts. A couple of clubs hide Fox Boxes and you have all day to go looking for them!

In addition, any ham who is anyone in New England will be there and many of the ARRL staffers will also be around, allowing for a good time to meet and greet.

Sunday is a half day of forums, similar to what is listed above, followed up by door prizes. Or else, many of us simply use the day for tourist activities!

Boxboro is off of Exit 28 on I-495. Take I-89 to I-93, 293, Everett Turnpike, Route 3 to 495. Figure 3.5 hours for the trip. Details are at Boxboro.org.

Next Meeting: August 8, 2015

SUMMER PICNIC AT KILL KARE STATE PARK

It's time for the Summer Picnic! We'll be at Kill Kare State Park in St. Albans, on Saturday, August 8th. This is the same day as STARC's Hamfest at the St. Albans VFW, 353 Lake Street. Why not make a whole day of it by heading over to the hamfest first (opens at 8 AM) then come to Kill Kare at 11AM and show us your new toys!

We will be using a different procedure this year. When entering the park, pay the day admission (\$4) or use your freebie card, if you have one. DO NOT mention you are with the radio group. If you do, they will likely make you park miles away! RANV will reimburse you later for the park admission you pay. Again, just pay the entrance fee and act like a normal park user. We suggest you park over by the ferry, leaving the spaces by the picnic area clear. Since parking will be tight, we strongly recommend getting there early.

RANV will otherwise supply soft drinks and charcoal for the grills. You bring the rest. Be sure to bring family and friends. This is a family event, so bring people – this should be more than just a ham gathering. Also bring food to eat, appropriate sporting goods and clothing, and any radio stuff you would like to play with. Leave pets at home since the park doesn't allow them, and it is too hot to leave a pet in the car.

We will set up a couple of radios and antennas. Feel free to bring your own toys, or use what we set up. There is no contest – we'll just get on the air and have fun.

Directions: Take I-89 North to Exit 19, St. Albans. Go past the light and down the access highway 1 mile to Route 7. Make a right and head 0.5 miles into downtown St. Albans. Look for Taylor Park (big green) on your right and then look for Lake Street and make a left. Go 3 miles on Lake Street until you see The Bayside Pavilion at your left and a Shell station at your right. Make a right turn and head north. You will pass St. Albans Town Park. Keep going!

You will only go 0.7 miles from the turn and will cross a small bridge. Right after this bridge, turn left on to Hathaway Point Road. There may or may not be a sign there. After the left turn, go 3 miles down the curvy road to the Park entrance.

September 12th & 13th is the annual "Summits-on-the-Air" Activity Weekend

North America SOTA Activity Weekend 2015 is a casual event involving tiny battery-powered radios on mountain summits. It is not a contest but is intended to introduce "Summits on the Air" to newcomers with home stations who try to work summit operators during one or two days. There are no rules regarding power levels, modes or number of bands worked, but please be courteous when more than one station is trying to talk to a SOTA operator on a summit. The SOTA operators have just climbed mountains as high as 14,000 feet; they use low power; and they don't receive on split frequencies.

Check SOTAWATCH.org to spot who is on which mountain. Summits are numbered, and you can hover your cursor over the number to see the name and point value for each summit. Expect the website to show activity near 7.032, 7.185, 10.110, 14.342, 18.095, 18.155, 21.350, 24.905, 24.955, 28.420, 146.52, 446.00, and 61 Khz up from the bottom of 20, 15 and 10 meters CW. Participants are invited to collect points toward certificates and trophies offered by the thirteen-year-old international SOTA group (SOTA.org.UK). As we learned in past years, this is a barrel of fun for both hill climbers and home operators. See you then.

2015 RANV FIELD DAY HALL OF FAME

AA1SU Paul – CW op; VHF op; Equipment; Bonuses; Set up; Tear down.
AB1DD Carl – GOTA coach; Set up; Tear down.
AB1T Doug – CW op; Equipment.
K1LI Brian – CW op.
K1WAL Kathi – GOTA op/coach; Set up; Tear down.
K1ZK Zach – CW op; VHF op.
KB1FRW Bob – Phone op; VHF op; Equipment; Set up; Tear down.
KB1LHB Adam – GOTA op; Set up; Tear down.
KB1LOT Jim – Set up; Tear down.
KB1MDC Alan – Set up.
KB1PDW Spence – Set up.
KB1THX Tim – GOTA op/coach; VHFop; Set up; Tear down.
KB1VJE Dick – Set up; Tear down.
KB1WXM Bob – Set up; Tear down.
KC1DIJ John – GOTA op; Set up; Tear down.
KE1AZ Jim – Phone op; GOTA coach; Set up; Tear down. **KI6ISG Bev** – GOTA Op.
N1YD Jeff – Demos; GOTA op/coach; Set up; Tear down.
N1YWB Jeff – Phone op; VHF op; Set up; Tear down.
W1EAT Tom – CW op.
W1EBR Gene – Set up.
W1LWH Linn – CW op; Equipment; Set up; Tear down. **W1SJ Mitch** – Chairman; Phone op; Satellite op; Equipment; Set up; Tear down; Results.
W4YFJ Bob – Bulletins.
WL7CVD Duane – GOTA op; VHF op; Tear down.

2015 RANV FIELD DAY BOX SCORE				
80 CW	157	80 SSB	277	
40 CW	376	40 SSB	129	
20 CW	591	20 SSB	771	
15 CW	213	15 SSB	601	
GOTA CW	0	GOTA Ph	431	
VHF CW	3	VHF Ph	111	
Sat CW	1	Sat Ph	0	
Total CW	1341	Total Ph	2334	
3675 QSOs 2170 Bonus 12202 Pts				
	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>
QSO's	4548	4547	4639	5467
Bonuses	2410	2150	2450	2070
Points	14016	13876	14802	16320

Secretary's Minutes

K1WAL

Our meeting began with a few announcements. The club picnic will be August 8 at Kill Kare State Park. Before heading out to the park be sure to stop by the STARC Hamfest at the VFW on Lake Street in St. Albans!

Bob W4YFJ handed out certificates from the USS New Jersey to those who operated from the Steamship Ticonderoga during the Museum Ships Weekend.

We had a casualty from Field Day – a borrowed trailer has a shiny new dent which the club will pay to repair. The actual cost has not been determined.

No one is lined up for brining snack to our September meeting so if anyone is willing please speak up. Otherwise K1WAL will bring another treat – and the next experimental ingredient is eggplant!

Presentation:

Mitch W1SJ gave an excellent presentation on Propagation. Our diligent secretary scribbled many pages of notes of which some were made illegible after dousing in coffee.

Mitch began with three methods: Line of sight (UHF/VHF), Groundwave (AM), and Ionospheric Propagation (HF skip). In general Low HF refers to 160m-40m and High HF is 10m-20m.

The Ionosphere is 50-100 miles up where the density of the ions increases with height. The regions in the Ionosphere are known as the D-layer, E-layer, and the F-layer. (In case you are wondering about the A, B, and C layers it was mentioned that they haven't been found yet and are being reserved.)

The F-layer is known as the Appleton Layer. It consists of the F1 and F2 layers which combine at night. The E-layer is about 60-90 miles up and is known as Kennelly-

Heaviside, or simply Heaviside layer. The D-layer is about 30-50 miles up and absorbs signals and does nothing useful. The D-layer is strongest during the daytime and when it weakens at night is we can hear far away AM signals.

Mitch talked about refraction, which is when signals refract, not reflect, in the ionosphere and is dependent on the frequency and the angle of the signal. He also talked about hops – the maximum distance of one hop 2500 miles. Most of the USA is covered in one hop. The more hops the weaker the signal.

The Critical Angle is the steepest angle which will result in refraction and varies throughout the day. As the angle (wavelength) get steeper signals are no longer refracted. A skip zone may occur when no communications are possible.

Mitch covered the Maximum Usable Frequency (MUF) and the Lowest Useable Frequency (LUF). If the LUF goes above the MUF or vice versa then bands will become dead. At this point one should go find something else to do. There are ideal bands to use for each propagation path centered between the LUF and MUF.

Grey Line Propagation is a boundary between daytime and nighttime where propagation is often enhanced when one or both stations attempting to communicate is within this boundary. It is good to know where the sun is at both locations and along the path.

There are daily, monthly, and annual variations that affect propagation. Daily variations are based on the 24 hour rotation of the earth. Ionization is at its maximum at noon minimum at sunrise. Maximum ionization increases the MUF and LUF while minimum ionization decreases the MUF and LUF. Monthly variations follow the 28 day cycle of the moon. Yearly variation affect the lighter latitudes the most, which is where Vermont is.

Propagation is also affected by the 11 year sun spot cycle which causes ultraviolet radiation to charge the ionosphere. The more sun spots the better! Sudden ionospheric disturbances can cause problems. A solar flare increases ultraviolet radiation in 8 minutes can reach the earth and overcharge the ionosphere. When the D-layer becomes overcharged we can see the Aurora Borealis and sometimes create good openings on 6-meters. Coronal Mass Ejections (CME) causes a burst of solar energy from the sun causing geomagnetic storms.

Mitch explained abnormal propagation conditions such as scatter, Sporadic-E, Ducting, and Auroras. He then talked about predicting propagation using the current sunspot number (the more the better) and the solar flux index. The geomagnetic A index and K index are also good indication of geomagnetic disturbances.

Mitch wrapped up by saying the best thing to do is to get on the air and OPERATE, don't just listen. Operate in a contest (see www.ARRL.org for a good list), use sources such as DX Cluster if that helps, look at your logs to see when and where contacts were made in the past. And most of all – Have Fun!



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NEXT MEETING Picnic

Saturday • August 8th • 11:00am

Kill Kare State Park
Saint Albans, VT

Upcoming, Notices, & Misc

- Steering Wheel: 3rd Tues 6:30; Ninety-Nine Restaurant, Taft Corners, Williston
- VE Exams every 2nd Friday; Red Cross Building 29 Mansfield Ave, Burlington
- Dues due? Pay online at www.ranv.org/ranvpay.html

www.RANV.org