#645 Apr 2026

JUG

Publication of the Northern California Contest Club

NCCC

55 Years of Contesting Excellence

Inside This Issue

NCCC MEETING

https://nccc.cc/meetings.html

Sat 18 Apr 1130 – 1500 PDT

Cattlemens Restaurant
2882 Kitty Hawk Rd
Livermore CA 94551

AWARDS/ELECTIONS

President's Report

David West, KO6M

Wow, my last JUG column as President. I know you are probably all thinking "phew!". Well it's a mutual thing. Not for lack of wanting to write the column. Not for not enjoying it. However, you all are so much more versed in contesting than I am. Shoot, I should have asked each of you to write an article for me. Then I would have learned from each and every one of you.

Luckily, I did just that without you writing any articles. Instead I learned from your 3830 reports, groups.io conversations, and our face to face conversations.All I did was try to wrangle you all. I failed and didn't do that as well as I would have hoped. However, like I said in our Board of Directors meeting, the club is strong. It's healthy. It's changed. Not for the worse but it's starting to change and I hope that we can all embrace the change and help it be useful.

Thank you to the Board for supporting me for the last 3 years. I had written out a long list of names and callsigns that helped me in various ways during this term (and the previous terms) but instead I just want to say thank you to all of you for keeping this club as great as it is. I could not have done this without all of you.

In other news, I hope to see you at our Awards Banquet on April 18th at Cattlemans in Livermore. It's always a fun meeting. Not just because of

the awards but because of seeing everyone and the wonderful conversations. I would write a quick post about our award winners but that would ruin the surprise. Check back next month for the final list!

Please consider being on the board or in an officer position this next year, this club cannot operate fully without your participation. With that said this is our proposed slate for the 26-27 session. All of these spots are elected positions. You can still throw your hat in the ring.

President: Roberto, K6KM

Vice President/Contest Chair: Victor, N6DVS (*See Note 1*)

Secretary: Gary: NA6O

Treasurer: Nian, WU6P: *(See Note* 2)

Board Members:

Jim, K9YC (continuing)
Jeff WK6I (continuing)
Ed, AJ6V (continuing)

Past President: David, KO6M

Note 1: Victor is *willing to step into this role and help coordinate others and make this a team role)*

Note 2: Being forced to continue but we need a new Treasurer since Nian has done it 3 years now)

Lastly, don't forget we have the wonderful Champion of Asia-Oceania Challenge. Created by Bob Cox, K3EST. While the first contest in the challenge was this past weekend, we have several others on the slate. It's a great way to focus on some of the contests we can actually win from our fantastic location. More info about the challenge can be found on our website in the awards section. (https://nccc.cc/awards.html)

KB!
David KO6M

Upcoming State/Province QSO Parties

Thanks to WA7BNM

https://contestcalendar.com/stateparties.php

State/Province	Dates/Times
New Mexico	11 Apr 1400 to 12 Apr
Missouri	11 Apr 1400Z to 12 Apr 0400Z 12 Apr 1400Z to 2000Z
Georgia	11 Apr 1800Z to 12 Apr 1400Z 12 Apr 1400Z to 2400Z
North Dakota	11 Apr 1800Z to 12 Apr 1800Z
Michigan	18 Apr 1600Z to 19 Apr 0400Z
Ontario	18 Apr 1800Z to 19 Apr 0300Z 19 Apr 1200Z to 2000Z
Quebec	19 Apr 1300Z to 2400Z
Nebraska	25 Apr 1400Z to 25 Apr 0200Z
Florida	25 Apr 1600Z to 26 Apr 0200Z 26 Apr 1200Z to 2200Z

Larger Contests on the Horizon

JIDX CW	11 Apr 0700Z to 12 Aor 1300Z
OK/OM DX SSB	11 Apr 1200Z to 12 Aor 1200Z
WW Holyland	17 Apr 2100Z to 18 Apr 2100Z
Worked All China Provinces	18 Apr 0600Z ti 19Apr 0600Z

Editor's Query: Does anyone actually read these upcoming contest tables? They take a lot of time to extract and format and I suspect that everyone uses Bruce's Contest Calendar anyway

Weekly CW (1 hr) Events

ID	DAY	UTC	EXCH	WPM	SPONSOR
SST	Fri	2000 - 2100	Name+SPC	<20	K1USN
	Mon	0000 - 0100			
MST	Mon	1300 - 1400	Name+QSO#	20-25	ICWC
	Mon	1900 - 2000			
	Tue	0300 - 0400			
CWT	Wed	1300 - 1400	Name+CWO# or Name+SPC	20->∞	CWops
	Wed	1900 - 2000			
	Thu	0300 - 0400			
	Thu	0700 - 0800			

Thursday FT4 NCCC Sprint

The Northern California Club is again pleased to sponsor our weekly FT4 Sprint, aka FT4NS (NCCC Sprint). This contest is held every Friday UTC between 0100Z and 0130Z (Thursday evening in North America). Non-North American stations are welcome to participate. No logs are necessary; please submit your score to 3830scores.com using the "NCCC FT4 Sprint" template. FT4 NS Sprint Rules are posted at: https://www.ncccsprint.com/ns.html See you on the screen! Frequencies: 1839, 3575, 7047.5 (also 7080), 14080, 21140, 28180, 50318.

NCCC Annual KB Competition Rules

Revised March 10, 2026

Gary, NA6O

Current rules and standings are always available at http://nccc.cc/awards.html.

Purpose: To provide a means of rewarding NCCC members who are DX contesters, sprinters, VHFers, and especially active contesters in all modes.

Time period: The contest year restarts at 0000 March 1 UTC. ARRL DX SSB is the first contest of the year. NAQP RTTY is the last.

Eligible Contests: Currently, points from 28 contests are counted. See the table on the next page.

Scoring: For math dudes, your score is:

$$S = n * \sum_{k=1}^{n} (P_k * M_k)$$

where:

S = your KB score for the year
n = the number of contests entered and posted scires to 3830 for the year
P_k is the number of QSO points for the k'th contest you entered
M_k is the KB multiplier for the k'th contest you entered

and for programmer dudes:

```
C     GIVEN N, THE NUMBER OF CONTESTS ENTERED,
C     ARRAY P CONTAINING SCORES FOR EACH,
C     AND ARRAY M CONTAINING KB MULTIPLIERS FOR
C     EACH CONTEST ENTERED
C
      COMMON P(50), M(50)
      S=0
      DO 100 K=1, N, 1
         S=S+P(K)*M(K)
100 CONTINUE
      SCORE=N*S
      PRINT SCORE
      END
```

If you're not a math or programmer dude, your score is the sum of the QSO points times the KB multiplier for each contest you've entered, multiplied by the number of contests entered. Remember that to be valid, you must post your scores to 3830.

M**ulti-ops:** Points = total score divided by the number of operators.

Station owners: A station owner who *does not participate* in a particular contest receives 25% of the points.

Valid scores: Only scores posted to 3830scores.com are counted. Scores obtained by use of **High Power** in the 6 NAQP competitions and the weekly NCCC sprints (CW, CW Ladder and FT4) will not be counted for the KB competition, either as scores or as contest multipliers. **A minimum of 25 QSOs** are required in all contests, except for the NCCC sprints. Scores are counted regardless of which club received the contest points (NCCC, MLDXCC, REDXA, PL259, etc.). The only requirement is that you **must be an NCCC member** to receive credit for the contest.

Brackets: There are four independent brackets for the purpose of awards: 1-Platinum, 2-Gold, 3-Silver, and 4-Bronze. Brackets are assigned at the beginning of the contest year according to your final position in the previous year's standings.

Awards: Paid NCCC members may receive awards.

How to Improve Your Standing

- Post all your scores on 3830. Those are the only ones that count.
- Participate! Even the smallest score has value. Every contest on the list is a multiplier.
- Try a new mode or a new band (VHF, 10, 160).
- Try the sprints. Small score, big multiplier.
- Go for a big score in WPX: Exponential score growth.
- Join a multi-op: The score is split among ops.
- Let someone else use your station: You get 25%.

Comments are welcome, as always. I log and track every comment and suggestion and try to improve the KB Competition each year. The one thinKBg I can guarantee is that each year will be different!

Contact: Gary NA6O, NCCC KB Awards Manager, *gwj@me.com*

KB Contest/Multiplier List

Contest	Date	Mult
ARRL DX Contest SSB	March 8	9
CQ WPX SSB	March 28	2
7QP	May 2	20
CQ WPX CW	May 30	1
ARRL DX Contest DIGI	June 6	250
ARRL June VHF	June 13	200
IARU HF World Championships	July 11	4
NAQP Summer RTTY	July 18	25
NAQP Summer CW	August 1	25
NAQP Summer SSB	August 15	50
NA Sprint Fall CW	September 13	150
CQWW RTTY	September 26	1
CQP	October 3	10
CQWW SSB	October 24	1

Contest	Date	Mult
ARRL Sweepstakes CW	November 7	15
ARRL Sweepstakes SSB	November 21	15
CQWW CW	November 28	1
ARRL 160 Meter Contest	December 4	100
ARRL 10 Meter Contest	December 12	4
RAC Winter	December 19	20
ARRL RTTY Roundup	January 2	50
NAQP Winter CW	January 9	15
NAQP Winter SSB	January 16	15
NA Sprint Winter CW	February 7	150
CQ WPX RTTY	February 13	2
ARRL DX Contest CW	February 20	1
NAQP Winter RTTY	February 27	15
NCCC Sprint CW and FT4	Weekly	100

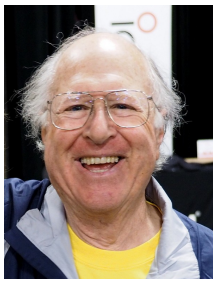
KB Brackets

Platinum	Gold	Silver
W2SC	K7GK	W6BG
K6KM	WB6JJJ	NC6R
AJ6V	N6DW	W6WZZ
WD6T	N6TTV	KK6PXT
AE6Y	N5KO	KF6NCX
N6WM	N6GEO	K6MM
N6RO	K6OK	W1SRD
KA6BIM	KX7M	K6SRZ
K6XX	VA7RR	NA6O
WX5S	W9KKN	WE6Z
N6TV	K6TQ	NU6S
W0YK	AF6SA	W6NL
W6SX	KH6LC	K6YLH
N6IE	K6ST	OH1VR
W1RH	N3ZZ	WU6X
W6TCP	N6ZFO	K6KLY
KM9R	KE8FT	KO6M
W6NV	K3EST	K6XV
K9YC	NN7O	W6JTI
K6GHA	NN6U	K6ELE
N3RC	N7MH	K6MI
W6EU	W6IA	WX6V
K6RIM	W6OAT	KE6QR
K6EI	KE6GLA	KZ2V
WN6A	W2DON	NF6R
K6NV	N6KT	W6SR
NW6P	W6SC	N6DE
NO5Z	KH2TJ	K8TR
N6XI	K6UFO	AJ6T
AD6E	WK6I	WU7W
WC6H	N6YEU	N6EE
W6FB	KW6S	NS6T
WU6P	K6JS	W6DR
K6RC	N6PN	K2RD
W6LD	K6EY	KD6WKY

CQ Contest Hall of Fame Inducts NCCC Members

David Leeson, PhD --W6NL

(ex-W6QHS).



Dave was first licensed in 1952. and is the author of the ARRL book "Physical Design of Yagi Antennas", and was a designer of the IARU International Beacon Network.

Professionally, he received degrees from Cal Tech, MIT, and Stanford Universities, is the author of widely cited journal papers on oscillator phase noise and nonlinear circuits, and is a Life Fellow of the IEEE. From 1968 to 1993, he was the founding Chairman and CEO of California Microwave, Inc., retiring with a staff of two thousand. Since 1994, he has been a Consulting Professor at Stanford, and is the faculty advisor of the Stanford Amateur Radio Club, W6YX. He enjoys the friendship, technology and contesting aspects of ham radio, having been part of winning radiosport efforts from North Africa, the Caribbean, the Galápagos and California. He drove a racecar, retiring in 1979 to return to ham radio after back-to back national championships.

Richard Dean Straw N6BV

Silent Key

Dean, a long-time and well known member of NCCC who passed away in the middle of 2025 was recently posthumously inducted into the CQ Contest Hall of Fame. Perhaps best know as the editor of the "ARRL Antenna Book" for many years, he was the author of "HFTA" [High Frequency Terrain Analysis], published as part of the Antenna Book

Dean was also an avid antenna designer and modeling expert also creating TLW [Transmission Line for Windows].

He was an avid contester, often operation from the N6RO superstation. He served as President, Vice-President/Contest Chair, and Board Member for NCCC and is well known in the DX cirles as well.

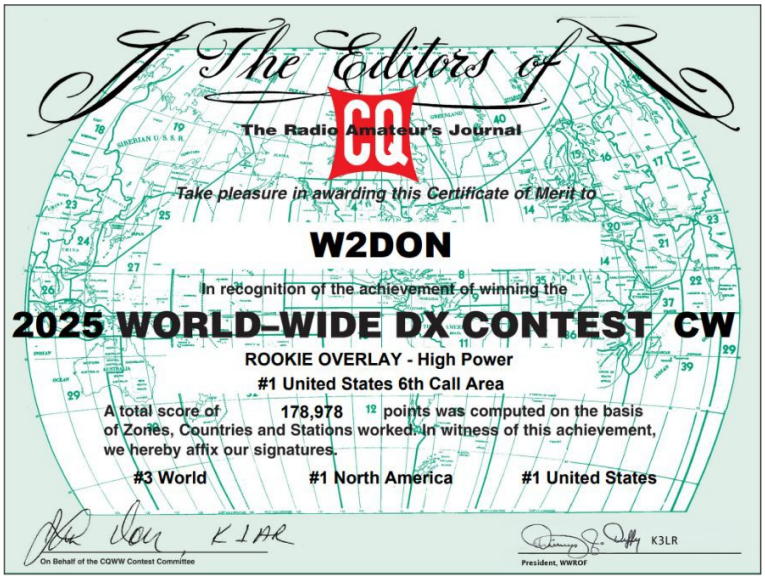
The ARRL Antenna Book contains Dean's software. CTU Presents .contains additional information on Dean's work.

The Lumber Yard

Awards and Kudos for NCCC Members

The Lumber Yard

Awards and Kudos for NCCC Members



The Sweep of Sweeps in Sweepstakes

Our mighty team of WD6T and N6WM has officially won both SSB and CW ARRL Sweepstakes for 2025 in the Multioperator, Single-Transmitter, High-Power category. This is definitely a first for Team N6RO. Clearly we have some world-class operating talent filling the chairs. And all that hard work fixing up the station in recent years is paying off too. Congratulations to the entire team.

January 2026 NAQP CW Analysis

Dean Wood, N6DE

Will fixed stations with towers and monoband yagis always be louder than portable stations with modest antennas? What can we conclude about takeoff angles for a domestic contest? I explored these questions for the January 2026 NAQP CW contest.

I operated portable with low wires from POTA US-1151, Fremont Peak State Park, located at the edge of steep downsloping terrain. I was interested in understanding how my signal compared to other fixed stations in Northern CA. Fortunately, the N6RO and N6TV stations were both seriously active full time in NAQP CW. They are located within 85 miles of my portable location, so propagation differences between us should be minimal. They are loud stations that called CQ a lot, so there was a rich set of SNR data available from the Reverse Beacon Network (RBN). I called CQ enough to have a number of datapoints to compare with N6RO and N6TV. Here's what I did:

- Collected RBN SNR data from all nodes in North America for January 10 & 11, 2026 (UTC).
- For each given RBN node: If a spot for N6RO or N6TV occurred within 5 minutes of a spot for N6DE on the same band, I calculated the dB difference in SNR.
- Collected all the SNR deltas and analyzed them on 10 m, 15 m and 20 m.
- For the primary comparison tables and plots, I omitted data from all W6, W7, VE6, VE7 and KH6 RBN nodes. This was to focus the primary analysis toward the main beam headings of the yagis from the N6RO and N6TV stations.
- Data from 44 RBN nodes is included in the analysis:
    - W0: 3 (AC0C-1, K3PA-1, K3PA-2)
    - W1: 6 (KM3T-2, KM3T-3, KM3T-5, W1NT-2, W1NT-6, N2YCH)
    - W2: 4 (WC2L, N2CR, W2NNN, KD2OGR)
    - W3: 7 (K3LR, WZ7I, W3RGA, W3RGA-1, W2NAF, W3LPL, WS3W)
    - W4: 11 (W3OA, WV4P, KC4YVA, K4PP, NU4F, NU4F-2, KV4TT, W4KAZ, K1RA, WB6BEE, K7EK)
    - W5: 4 (K5TR, NX5M, W5ZN, WX7V/5)
    - W8: 2 (W8WWV, WC8GOP)
    - W9: 6 (K9LC, WE9V, WT9U, K9IMM, K9QC, N9CO)
    - TI: TI7W
    - ZF: ZF9CW
- On 20 m only, an additional table and plot is included, analyzing data from RBN nodes in northern and western directions (OR, WA, VE6, VE7, KH6). This is to evaluate the difference when stations are off the side or back of the N6RO and N6TV yagis, and compare with the N6DE inverted-vee wire.

Table 1. Antennas

Station	10 m	15 m	20 m
N6RO	3 monoband 5-element yagi stack @ 103 ft / 69 ft / 35 ft. All antennas pointed between 60° and 80° heading.	2 monoband 6-element yagi stack @ 117 ft / 77 ft Both antennas pointed between 60° and 80° heading.	3 monoband 5-element yagi stack @ 136 ft / 90 ft / 45 ft. Top and bottom antennas pointed between 70° and 80° heading. Middle antenna pointed at 30° heading.
N6TV	5-element monoband yagi @ 100 ft. Pointed between 60° and 80° heading.	5-element monoband yagi @ 94 ft. Pointed between 60° and 80° heading.	5-element monoband yagi @ 86 ft. Pointed between 60° and 80° heading.
N6DE	Inverted-Vee wire @ 20 ft	Inverted-Vee wire @ 20 ft	Inverted-Vee wire @ 20 ft

All three stations were transmitting with 100 W output power.

At left elow is a picture of my mast and tripod setup from Friday before NAQP CW, holding my Inverted-Vee antennas. On Saturday, I had to lower the mast to fix the 15 m antenna problem, so the mast during the contest was significantly lower than this picture shows. On the right is the terrain profile toward K3LR from the N6DE, N6TV, and N6RO stations.

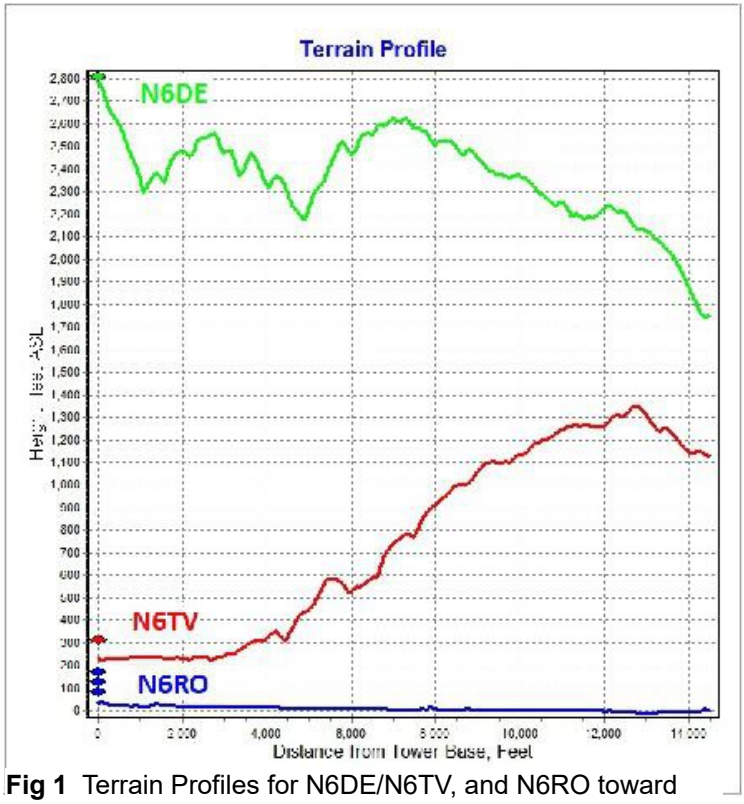


Fig 1 Terrain Profiles for N6DE/N6TV, and N6RO toward K3LR

The following data and analyses are provided in three blocks for 10, 15, and 20 meters. Each block includes an HFTA plot of signal arrival angles for N6DE, N6TV, and N6RO, and for N6DE if the eastward terrain profile was flat. Descriptive statistics for N6DE vs the other two stations … separately and combined ... are presented in a table, and the probability distribution of the differences is presented in 3 histogram charts.

10 Meters

Stn	Weaker	Stronger	Median
Both	64.00%	36.00%	-4 dB
N6RO	70.00%	30.00%	-5 dB
N6TV	56.00%	44.00%	-2 dB

Table 2. Fraction of RBN reports with N6DE weaker/stronger than comparison stations

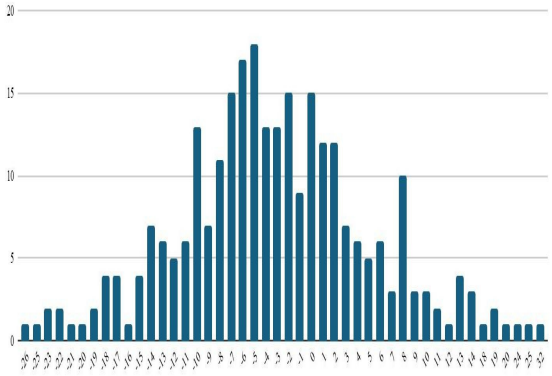


Figure 3. 10 m Histogram of N6DE SNR [dB] differences compared to both N6RO + N6TV

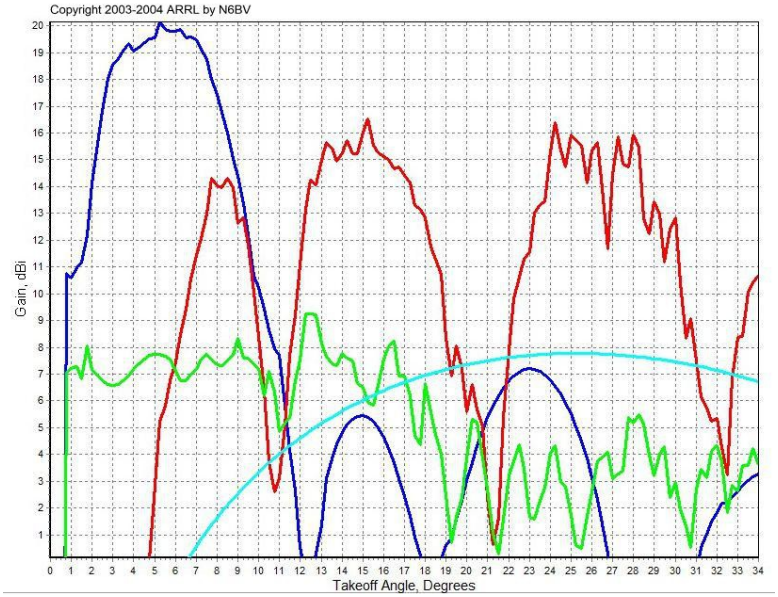


Figure 2. 10 m HFTA prediction. Blue: N6RO; Red: N6TV; Green: N6DE; Teal: N6DE if terrain was flat.

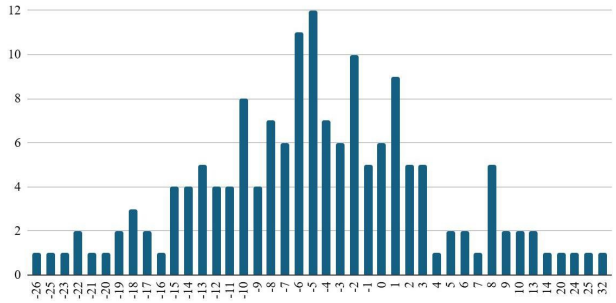


Figure 4. 10 m Histogram of N6DE SNR [dB] difference compared to N6RO

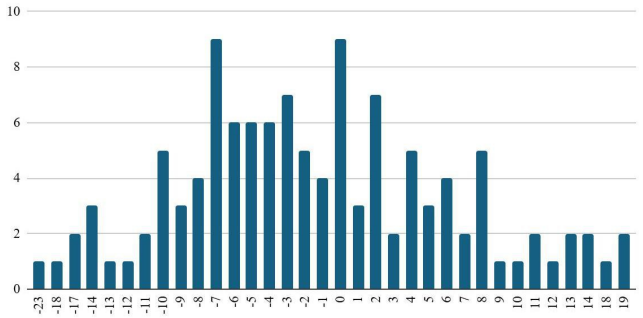


Figure 5. 10 m Histogram of N6DE SNR [dB] difference compared to N6TV

15 Meters

Stn	Weaker	Stronger	Median
Both	70.00%	30.00%	-3 dB
N6RO	63.00%	37.00%	-3 dB
N6TV	77.00%	23.00%	-3 dB

Table 3. Fraction of RBN reports with N6DE weaker/stronger than comparison stations

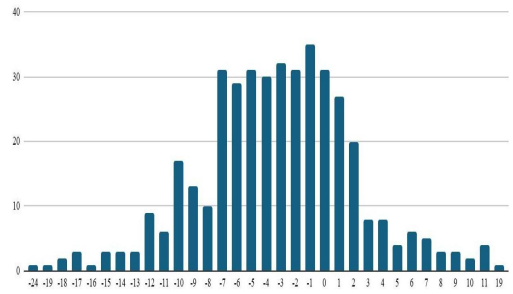


Figure 7. 15 m Histogram of N6DE SNR [dB] differences compared to both N6RO + N6TV

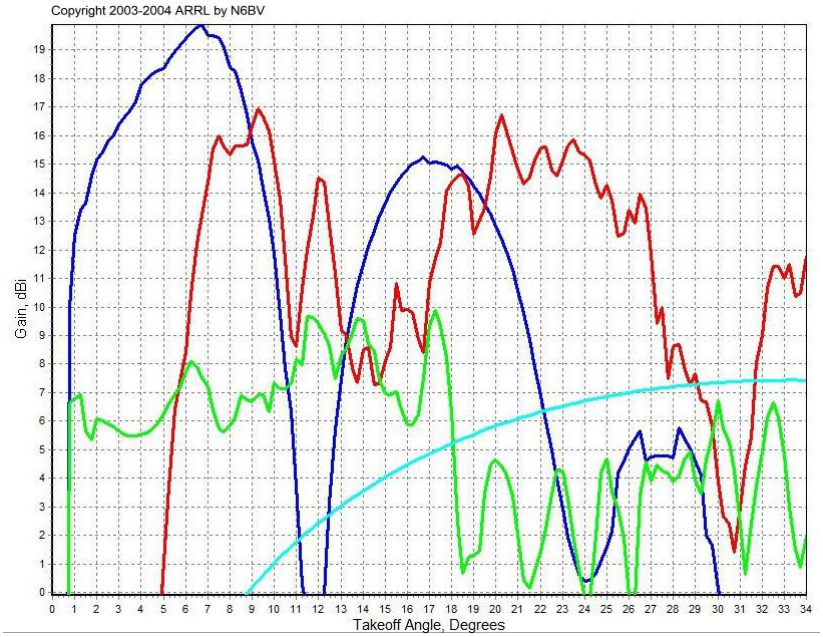


Figure 6. 15 m HFTA prediction. Blue: N6RO; Red: N6TV; Green: N6DE; Teal: N6DE if terrain was flat.

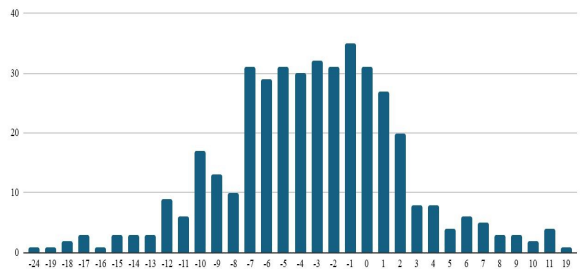


Figure 8. 15 m Histogram of N6DE SNR [dB] difference compared to N6RO

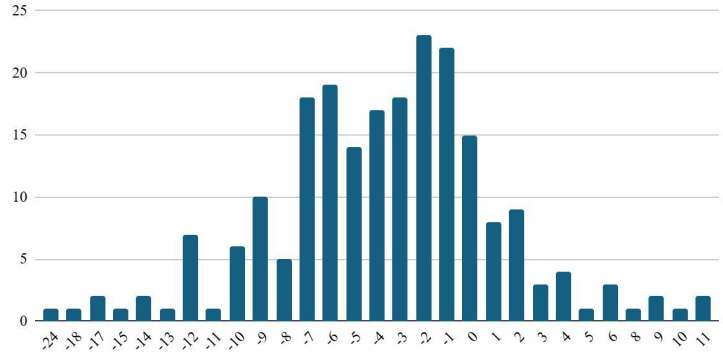


Figure 9. 15 m Histogram of N6DE SNR [dB] difference compared to N6TV

20 Meters

Stn	Weaker	Stronger	Median
Both	86.00%	14.00%	-6 dB
N6RO	85.00%	15.00%	-5 dB
N6TV	87.00%	13.00%	-7 dB

Table 4. Fraction of RBN reports with N6DE weaker/stronger than comparison stations

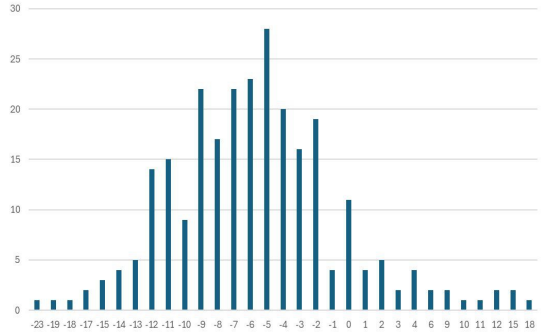


Figure 11. 20 m Histogram of N6DE SNR [dB] difference compared to N6RO+N6TV

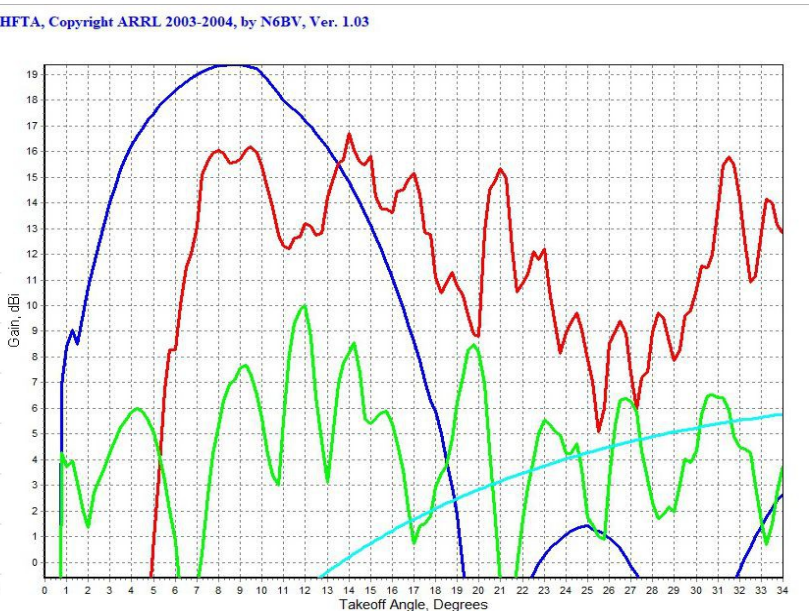


Figure 10. 20 m HFTA prediction. Blue: N6RO; Red: N6TV; Green: N6DE; Teal: N6DE if terrain was flat.

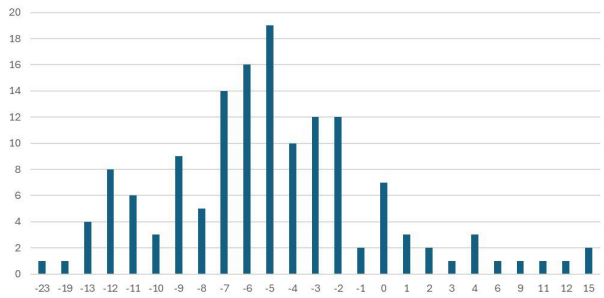


Figure 12. 20 m Histogram of N6DE SNR [dB] difference compared to N6RO

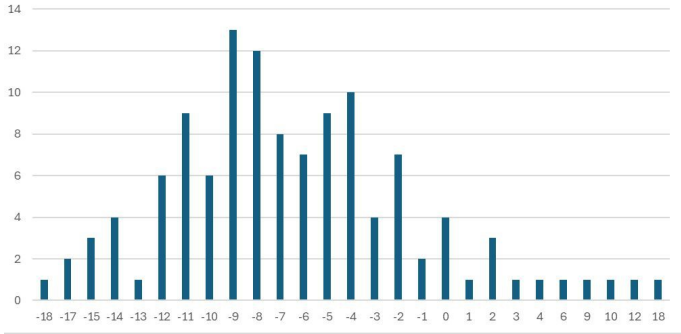


Figure 13 20 m Histogram of N6DE SNR [dB] difference compared to N6TV

Discussion and Conclusions

These data are a sledgehammer to the assumption that a portable station at a POTA park cannot be competitive in contesting. The data here cover transmit signals, but not covered is the low noise floor that can also be achieved at portable locations. Noise continues to increase at fixed stations, creating opportunities for competitive advantages on receive from portable locations.

How can an inverted-vee at 20 ft match or beat the N6RO 15 m stack 37% of the time? Downsloping terrain made a huge difference. Per HFTA, it provided me with a >10 dB improvement at low elevation angles compared with the same wire over flat terrain. At other angles, the terrain with a relatively low antenna provided energy where there may have been a null in the N6RO or N6TV elevation patterns. My inverted-V's were still getting beat the vast majority of the time, as it should be, but the dB differences were much closer than I expected. For the OR/WA/VE6/VE7/KH6 paths on 20 m, my SNR was generally better, as expected when comparing an inv-vee with a yagi. However, I thought the margin would have been larger than it was. In reality, N6RO and N6TV were still doing OK to these locations. My assumption was that my inverted-V pattern was similar to a vertical antenna in the azimuth plane, with perhaps 5 dB down at most on the ends, while the monoband yagi patterns of N6RO and N6TV should have been well over 20 dB down off the side. Was the pattern of my inverted-V closer to a dipole in reality? And why wasn't I 15+ dB stronger than N6RO and N6TV into KH6? Unknown.

SNR deltas varied much more than I expected for stateside paths and this cannot be explained by different areas of the country. For example, low SNR deltas were not always in W9 while high deltas were not always in W1. I frequently observed that for any given RBN node, the SNR differences between our stations were not constant, even in a two hour period of time on each band. This means that the ionosphere changed quite a bit during NAQP CW. My real world SNR performance surpassed HFTA simulations at VOACAP monthly elevation angle predictions for stateside. Were those VOACAP predictions accurate? We had a geomagnetic disturbance during the contest due to solar wind, driving the K index to values between 3 and 6. Was this causing required elevation angles to change during the contest, more than expected?

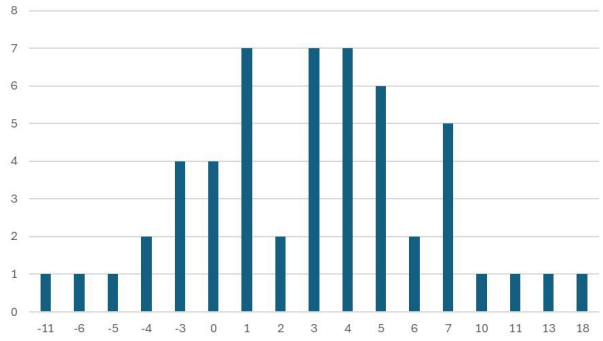
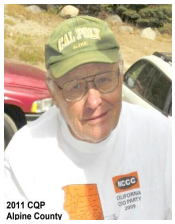


Figure 14. 20 m Histogram of N6DE SNR Difference for N6RO & N6TV for OR, WA, VE6, VE7, KH6 RBN Nodes only

I had a good email exchange with Carl K9LA and he helped explain a few key points. In short, it is not fully understood how a geomagnetic disturbance affects the required elevation angle for a given path. It can drive the angle lower than predicted, higher than predicted, stay the same as predicted, or have all three scenarios occurring at different points, depending on how the geomagnetic storm develops and fades. VOACAP elevation angle monthly predictions are performed assuming a quiet geomagnetic field. Another strong possibility is that the mode of propagation on 10, 15, and 20 m was changing between 1F2 and 2F2 modes for various paths. The elevation angle needed to support each of those modes is different, thus the effect is that the required elevation angle kept changing, shown by a large spread in the histogram bell curves.

Editor Notes



In 1953 as a 13 yr old Novice, I was complaining to my elmer Art, W6RMK, that I only had a 20 watt transmitter [on a good day]. He asked, "How many QSO's have you made since the mailman brought you your license?" I, somewhat proudly, replied, "Don't know the number but I'm more than half-way through my logbook." He said, "If you're any stronger at the other end than you need to be, you're wasting power." That was a few years ago, Art is a Silent Key, W6RMK is held by Art's grandson Jim, and now, at the other end of my life, I'm still on the air with 100 W using a questionable "antenna" and I'm still logging QSO's. Dean's analysis of his NAQP CW experience seems to bear out Art's advice and my experiences.

JUG Editor Needed

JUG Editor is not an elected position and we are going to need a volunteer to take over editor duties in the next several months. The JUG has been published almost every month since January, 1971 – 56 years --, probably well before many current members found ham radio … or had were even alive.

The job is not difficult given today's word processing and publishing software and I'll help with the transition. It's also a great way to stay connected with the club and members' activities. Should you have some interest and would like to inquire without broadcasting to the world before deciding, email me privately at ***k6dgwnv@gmail.com*** and I can fill you in on all the details.

Vintage Amateur Radio Solutions

Mason Jarres, PhD WC6MJ

Recognize the gizmo at the left? For the youngsters, it's a vintage [ca 1940's – 1950's] hose following lawn sprinkler. One laid out the hose in a pattern to cover the lawn, screwed the hose into the back end of the device. The front wheel had a groove around its circumfrence that fit over the hose, and a little turbine motor that slowly inched the assembly back toward the water faucet while spraying water from the rotating pipe on top. It came with a bakelite frog[1] that would lift the front off the hose and close a valve stopping the water flow and progress.

Removing the rotating pipe sprinkler left a vertical nozzle that shot a water stream into the air controlled by a valve at the hose connection and thus would control the height of the vertical water stream. The coax fed a connector that was part of the water valve and coupled power to the vertical stream. The coax was laid along the hose.

Adjust the valve for a 1/4-wave high stream of water and you're antenna is ready to transmit. The water wets the grass which acts as a ground plane, and the horizontal movement of the entire assembly along the hose-coax spreads the water evenly, preventing mud holes developing. Not recommended for 160 or 80 meters.

1 "Frog" A railroad term for an emergency cast iron thingy that would derail a train approaching a disaster.

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NCCC Membership Information

If you wish to join NCCC, please fill out an application for membership, which will be read and voted upon at our monthly meeting. To join, you must reside within club territory which is defined as everything in California north of the Tehachapi's up to the Oregon state line, and part of northwestern Nevada (anything within our ARRL 175-mile radius circle centered at 10 miles north of Auburn on Highway 49).

Life Memberships

Life memberships are $250.00 Contact secretary.nccc@gmail.com. Members who have reached 80 years of age have and been an NCCC member for 20 or more years are eligible for Honorary Life Membership ("80/20 Rule"). Contact secretary.nccc@gmail.com

radiosport.world/ladder

JUG Articles Wanted!

Please consider submitting an article! The preferred format is plain, unformatted ASCII text MS Word (.doc/.docx) are acceptable, Pictures should be as high a resolution as available. Please do not spend time formatting your submittal, the templates will re-format everything. Send your material to *k6dgwnv@gmail.com*

Northern California Contest Club Reflector—Guidelines

The NCCC email reflector is devoted to the discussion of contesting. Topics include contests, station building, dxpeditions, technical questions, contesting questions, amateur radio equipment wants/sales, score posting, amateur radio meetings/ conventions, and membership achievements. Postings may not include personal attacks, politics, or off-subject posts. Such postings will be considered a violation of the Guidelines

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X (aka Twitter): "NCCCKB"

NCCC Lands' End Store

We are pleased to announce that the new NCCC Land's End store is online! You can choose from an array of shirts, jackets, and hats and apply your choice of custom-embroidered NCCC logos: A plain one, or one that also says Fifty Years. And, you can personalize your item by adding your name and/or call sign. The store is open 24/7 and items are shipped directly to you. No more waiting for everyone else to make up their minds on a group purchase.

https://business.landsend.com/store/nccc/ or from the NCCC website: http://nccc.ccc/members/lestore.html
Thanks to W6TCP for helping to set this up. Instructions for purchases from Lands' End NCCC Store

1. Go to https://business.landsend.com/store/nccc/
2. Click on Men's or Women's link, then choose item(s)
3. Pick color, inter quantity of each size you want to order.
4. Click Apply Logos and Personalizations. This will display the logo choices. Try them out. It will show you what they look like on your chosen fabric color.
5. Select a location for logo (left side, ride side, back, etc)
6. Click Apply Logo.
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8. Click Add to Bag and Continue Shopping or.

   Start Secure Check out. Account creation and credit card required.

K4 HIGH-PERFORMANCE DIRECT SAMPLING SDR

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