

# Results of the 2019 CQ DX Marathon

BY JOHN SWEENEY, K9EL

**A**t the end of last year, I was asked to make some predictions about the 2019 DX Marathon. That seemed like a simple request, so I predicted that as the sunspot cycle bottomed out, we would have about 10% fewer participants, as much as a 20% drop in total QSOs, and only a few minor records would be broken — I could not have been more wrong! When the numbers were tallied, it showed that participant and log levels were identical with last year and QSO numbers were only slightly under last year. Participation increased in Europe and North America although there was a drop in participation from South America.

New records? We had a nearly 50% increase in new all-time records. 2019 was an incredible year considering we had some of the worst band conditions in many years. The DX Marathon is really helping to keep the bands active. Almost more amazing is that the average score of all participants — across all classes, bands, and modes — increased by 17% over 2018. It is truly amazing that even poor band conditions can produce some incredible results. These graphs (*Figures 1 and 2*) show that overall DX Marathon participation remains strong despite the lack of sunspots.

With the lack of sunspots, DX signals are weaker, but a multitude of digital modes have allowed anyone to work DX. The weak-signal capability of the digital modes has kept activity high in the DX Marathon. Digital modes accounted for 60% of all QSOs in the Marathon — an incredible increase from less than 20% in 2015. The FT4 and FT8 modes accounted for most of those digital contacts. As a result, phone contacts have dropped to only 16% of the total QSOs submitted. CW has fallen as well but only by a few percentage points. The mode graph (see *Figure 3*) shows the change over the last few years.

As a result of the growing interest in FT8 / FT4, we also had an increase in the number of participants seeking single-mode awards, specifically digital (see *Figure 4*). With nearly 20% of all participants going after the digital-only award, competition was significant.

The maximum possible score in 2019 was 327, a slight drop of six entities from 2018, but still very impressive considering the band conditions. Even with the drop in the maximum possible score, 30 all-time records were broken. Some happy hams now have their calls in the DX Marathon record books. The new records were quite varied, with only seven of the 30 new records related to digital. As expected, the top scores on the higher HF bands were low, but for the first time,

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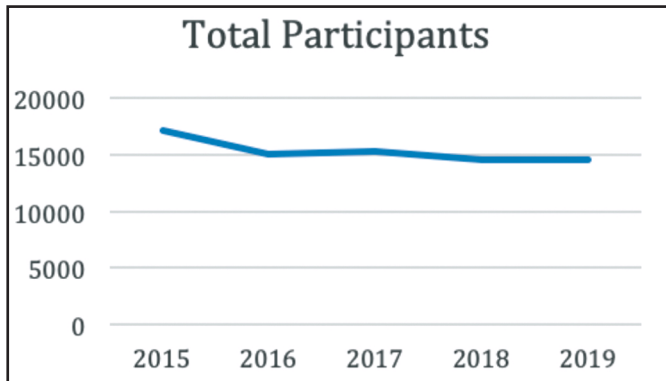


Figure 1.

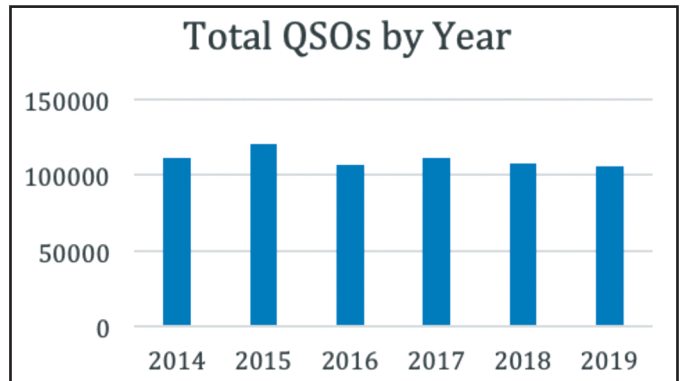


Figure 2.

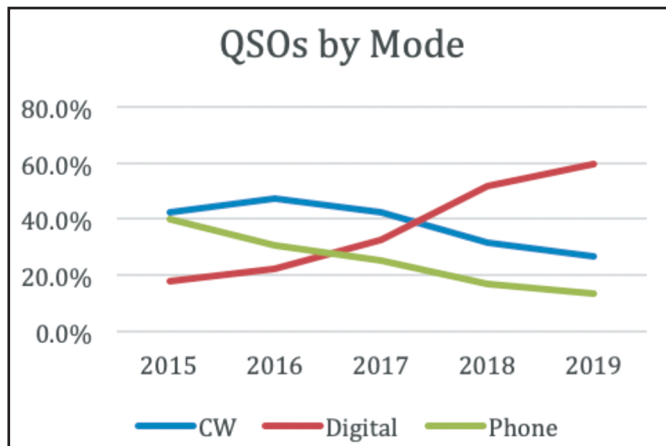


Figure 3.

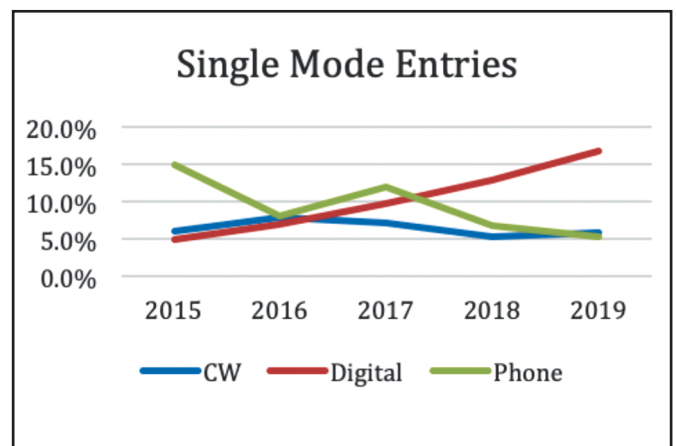


Figure 4.

the top 160-meter score was higher than the top scores on either the 6-, 10-, 12-, or 17-meter bands.

## And the Winners Are...

Winning the DX Marathon takes a lot of time and patience. Missing a single entity can cause a lot of frustration. Serge, R6YY, has been a big supporter of the DX Marathon for years and has placed in the Top 5 of Unlimited Class for each of the last four years. 2019 was the magic year for Serge and his total score of 322 placed him number one in Unlimited Class. In second place was Marvin, VE3VEE, with a score of 321 – done completely on 20 meters. Oms, PY5EG, and Eduard, OM3EY, both previous DX Marathon winners, tied for third at 317. John, K2ZJ, finished in 5<sup>th</sup> place at 315, improving from last year's 6<sup>th</sup> place finish. Only three points separated the finishers in positions six through 15.



*Alex, EW7A, was the Limited Class winner in the 2018 Marathon and is shown here with his winning plaque. Alex has been active in amateur radio since 1965 and has held various call signs from Russia and Belarus, including special event call signs. CW is his preferred mode.*



*Anton, YB5QZ, shown here in his well-equipped shack, is the Oceania plaque winner for 2019 with an impressive score of 310. Anton has been licensed since 1981 and is very active in chasing DX. He prefers CW, but like many of us, has joined the digital revolution as well. Anton is a CQ 5-Band WAZ award holder as well.*

In the Limited Class category, congratulations to Jim, K1PTF, who moved from Unlimited Class in 2018 to Limited in 2019 and took the top spot with a score of 288. Jim uses a hex beam plus wire antennas. Second and third place positions went to E76C at 279 and TA4RC at 276. In Formula Class, 100-watt option, the winner is once again James, K2JL, with a very impressive score of 297 points. Jim was the Formula Class winner last year and increased his score from last year. Karel, OK2FD, came very close to Jim in second place with a score of 295. Karel was last year's winner in the 5-watt category. Working the Marathon with wire antennas is a difficult challenge with no sunspots. Even more difficult is working DX with QRP power. Surprisingly, we saw a big increase in the number of QRP submissions in 2019. Congratulations to Milan, OK2AP, for winning the QRP category with an impressive score of 279 points. Bruno, ON6QRP, finished in second place with a score of 238.

Each year about 25% of the DX Marathon participants choose to submit scores for a single mode. In 2019 there was an overall increase in single-mode submissions, including a big jump in digital-only submissions along with an increase in CW submissions. Phone-only submissions continue to fall. Lada, OK2PAY, continues his love of CW and is now a five-time CW plaque winner. Lada topped the world with his CW-only score of 311. Dick, PA3FQA, came in second with a very impressive score of 289. The top North America CW score went to Norm, W4QN, who is a consistent Top 5 finisher. Both Lada and Norm will soon hold beautiful DX Marathon plaques for their efforts. The digital-only category again saw increases in total scores, coming very close to the top CW scores and easily surpassing the top phone scores. The ability of FT8 to work weak signals clearly was responsible for the increase in scores. This year's digital winner is no stranger to finishing at the top. Bill, K2TQC, the Unlimited Class winner for the last two years, decided to concentrate on digital for 2019 and came out on top with a score of 307. In addition, he set a new all-time high score for digital-only submissions. Last year's digital winner Jan, OM5XX, came in second at 298 points. Phone-only submissions continue to fall, but the top two scores were separated by only one point. Gert, PA2LO, who has finished second the last two years, moved to the number one position with a score of 269. Julio, W4HY, came in second at 268. Thanks for keeping phone DX alive.



*Gert, PA2LO, is very active chasing DX and is always at the top of the DX Marathon. In 2019, he took top worldwide phone honors. We are especially grateful to Gert as he is also a DX Marathon plaque sponsor. Gert operates all modes but prefers SSB. He has an excellent antenna farm and is very active in his local ham community.*

In addition to the overall and mode plaques, each year we award plaques to the top score on each continent plus the highest score on each of the 10- through 80-meter bands. Top honors for Africa went to CT3MD with his top score of 292. The next four positions all went to ZS stations — nice to see the activity from Africa. In Asia, JE1FQV, with a score of 310, beat last year's winner, JAØDAI, by only one point. The battle for the European top score is always close but R6YY and OM3EY always seem to be fighting for the top spot. This year, R6YY — our Unlimited Class winner — finished on top at 322, closely followed by last year's winner, OM3EY, at 317. In Oceania, YB5QZ took top honors with a score of 310, after finishing second last year. ZL2IFB finished in second with a score of 294. The North America plaque this year is awarded to Marvin, VE3VEE, who not only finished number one in North America with a score of 321 but also had the top 20-meter score. Marvin will add to his collection

of DX Marathon plaques. K2ZJ came in second at 315. Oms, PY5EG, one of the top DX Marathon winners since the beginning of the Marathon, took home top South America honors with a score of 317.

About 10% of DX Marathon participants submit single-band scores each year and 2019 was no different. For the 2019 single-band competitions, there were very few entries for the 10-, 12-, 15-, 17-meter bands, but the winners for those four bands were all from Brazil. Ten meters was won by PY2TMV with an amazing score of 142. PY2LCD had the top 12-meter score of 160. The 15-meter winner was PU2WSQ with his winning score of 243, narrowly beating PU2WDF at 239 — a repeat of last year's top two positions. Top score on 17 was from PY2TUA with a total of 196 points. VE3VEE was once again the king of 20 meters with the very good score of 321. Twenty meters was the hot band for 2019, as Marvin's 20-meter-only score put him in second place overall worldwide.

## TOP SCORES

**BOLD** = Plaque Winners  
 \* = Certificate Winners  
 Callsign is followed by Score

**Unlimited Class**

<b>R6YY</b> .....	<b>322</b>
VE3VEE.....	321
PY5EG.....	317
OM3EY.....	317
K2ZJ.....	315

**Limited Class**

<b>K1PTF</b> .....	<b>288</b>
E76C.....	279
TA4RC.....	276
IK2RPE.....	275
W9RF.....	271

**Formula Class - 100w**

<b>K2JL</b> .....	<b>297</b>
OK2FD.....	295
CX3AL.....	259
PY2TIM.....	256
IUØLFQ.....	254

**Formula Class - 5w**

<b>OK2AP</b> .....	<b>279</b>
ON6QRP.....	238
MM3AWD.....	236
K8ZT.....	225
W8QZA.....	209

**CW**

<b>OK2PAY</b> .....	<b>311</b>
PA3FQA.....	298
W4QN.....	289
PY5DK.....	289
W4JS.....	281

**Phone**

<b>PA2LO</b> .....	<b>269</b>
W4HY.....	268
PY5QW.....	211
PT7ZT.....	195
ZW5B.....	194
KL7KK.....	194

**Digital**

<b>K2TQC</b> .....	<b>307</b>
OM5XX.....	298
PY7ZZ.....	291
VK3BDX.....	286
N3SL.....	283

**Africa**

<b>CT3MD</b> .....	<b>292</b>
ZS2EZ.....	251
ZS6C.....	229
ZS6HON.....	197
ZS6GC.....	189

**Asia**

<b>JE1FQV</b> .....	<b>310</b>
JAØDAI.....	309
OD5YA.....	293
TA2LG.....	292
JF2XGF.....	286

**Europe**

R6YY.....	322
OM3EY.....	317
DJ3AA.....	311
OK2PAY.....	311
9A2AJ.....	311

**North America**

<b>VE3VEE</b> .....	<b>321</b>
K2ZJ.....	315
K3RA.....	312
WN4N.....	312
K5EK.....	309

**Oceania**

<b>YB5QZ</b> .....	<b>310</b>
ZL2IFB.....	294
VK3BDX.....	286
VK3VT.....	275
VK3SIM.....	274

**South America**

<b>PY5EG</b> .....	<b>317</b>
PY5HOT.....	306
PY7ZZ.....	291
PP5JR.....	289
PY5DK.....	289
HK3W.....	289

**6 Meters**

I4EAT*.....	130
IW2CAM.....	110

**10 Meters**

<b>PY2TMV</b> .....	<b>142</b>
PU2UAF.....	111
PU5BOY.....	90

**12 Meters**

<b>PY2LCD</b> .....	<b>160</b>
PU2MVE.....	121
WK3N.....	105
PY2SPW.....	84

**15 Meters**

<b>PU2WSQ</b> .....	<b>243</b>
PU2WDF.....	239
PY2DMZ.....	203
PU5KGB.....	189
PU1JSV.....	172

**17 Meters**

<b>PY2TUA</b> .....	<b>196</b>
LY3BM.....	191
ZS6AI.....	186
PY5IP.....	170

**20 Meters**

VE3VEE.....	321
PP5DZ.....	173
PY2MP.....	152
PY5AMF.....	147
PY4JW.....	134

**30 Meters**

<b>EA1DR</b> .....	<b>270</b>
PY5KD.....	251
DL7JAN.....	199
LY2FN.....	193
AA4SC.....	148

**40 Meters**

<b>PP5JR</b> .....	<b>289</b>
W9KNI.....	289
K9CJ.....	220
PP1WW.....	178
YD1RIK.....	111

**60 Meters**

W1NG.....	156
W5TD.....	60

**80 Meters**

<b>PY7DJ</b> .....	<b>247</b>
AA9A.....	205
N3QE.....	202
KC1BB.....	145
ON6SAT.....	139

**160 Meters**

K9RX*.....	214
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K7ZV.....	207
LA3MHA.....	184
AA3AZ.....	106
YB1TJ.....	94

**CW-Europe**

OK2PAY.....	311
PA3FQA.....	298
DL6DH.....	273
LA3MHA.....	184
ON1QX.....	41

**CW-North America**

<b>W4QN</b> .....	<b>289</b>
W4JS.....	281
K6XT.....	267
K1ESE.....	239
K2UF.....	234

**Zones**

KL7KK*.....	194
KC6AWX*.....	300
VE3VEE.....	321
K2ZJ*.....	315
XE1EE*.....	135
V31HH*.....	16
CM8NMN*.....	198
HK3W*.....	289
PY5EG.....	317
CE7KF*.....	194
CX3AL*.....	259
DJ3AA*.....	311
OM3EY*.....	317
R6YY.....	322
R9AB*.....	234
RAØLQ*.....	224
OD5YA*.....	293
A92GE*.....	272
VU2AE*.....	253
BV1EK*.....	219
JE1FQV.....	310
DU7EYG*.....	193
YB5QZ.....	310
VK6HG*.....	84
VK3BDX.....	286
ZL2IFB*.....	294
CT3MD.....	292
ZS2EZ.....	251
TF3DC*.....	187

Note: Top scorers in some zones received Plaques or Country Certificates.

EA1DR switched to 30 meters this year and continued his winning ways with the top score of 270. PP5JR and W9KNI had a tie score of 289 for 40 meters. In a tie situation, the winner is determined by the earliest date of the last point scored. PP5KR will win the 40-meter plaque for 2019. Bob, W9KNI, came very close to continuing his 40-meter win streak and we congratulate both on their excellent 40-meter scores. The 80-meter plaque was won by PY7DJ with a very impressive score of 247. AA9A came in second at 205. Congratulations to all the single-band plaque winners. The top 160-meter score of 214 will earn K9RX a nice certificate for taking top honors on top band. I4EAT was once again king of 6 meters with his score of 130. New in 2019 were two submissions for 60-meter single-band. We want to recognize W1NG who took top honors on 60 meters with a score of 156. Later this year, we plan to formally announce DX Marathon awards for the 60-meter band.

In addition to the 2019 plaque winners, we will award 110 certificates of achievement for various categories. Please



*Jim, K1PTF, is a first-time DX Marathon winner, taking top honors in Limited Class. Jim has been licensed since 1960 and is an active DXer, with CW as his favorite mode. Jim's antenna farm includes a hex beam on a 20-foot tower plus wire antennas. Welcome to the winner's club!*



*Norm, W4QN, has been an active DX Marathon participant and is always near the top of the CW scoreboard. In 2019, Norm was number one for CW in North America and will receive a nice plaque. Norm has been active since 1952 and has many, many accomplishments in his career. Norm is one of the founders of the Northern Illinois DX Association and the former owner of Cubex antennas.*

## CLUB SCORES

Club	Score
CDR Group.....	10597
Araucaria DX Group .....	5821
Northern Illinois DX Association .....	5788
Rhein Ruhr DX Association .....	3379
Carolina DX Association .....	3364
Mother Lode DX/Contest Club.....	3187
Rio DX Group .....	2922
Willamette Valley DX Club.....	2669
East Tennessee DX Association .....	2532
Salt City DX Association .....	1467
Metro DX Club .....	1426
YB Land DX Club .....	1322
Society of Midwest Contesters .....	1272
Vytautas Magnus University Radio Club .....	1061
CMDXGROUP .....	928
CABREUVADX .....	923
Arizona Outlaws Contest Club.....	896
Florida Contest Group .....	884
Bavarian Contest Club .....	813
Bahia DX Group.....	809
Potomac Valley Radio Club.....	733
Radio Club Venezolano .....	701
VU Contest Group .....	609
Lone Star DX Association.....	539
CWOPs .....	530
Duzce Telsiz ve Radyo Amatorleri Dernegi .....	522
Mile High DX Association .....	494
Yankee Clipper Contest Club .....	459
SCDXC .....	456
Renegados DX Group .....	443
Cantareira DX Group .....	394
Minnesota Wireless Association .....	392
Secunda Radio Club .....	371
OM3KEG .....	317
Regionalis Radios Sportklub Puspokladany .....	311
Clipperton DX Club .....	310
Yokohama DX Club .....	310
JAQ-DX-Gang.....	309
Croatian Contest Club .....	304
GPDx.....	303
Belarus Contest Club.....	302
REDXA .....	300
Sao Paulo Contest Group.....	299
CDXC.....	294
Southern California DX Club.....	293
TEAMPAPA .....	276
A.R.I.....	275
599 DX Group.....	274
Indios Team.....	270
Waylanders.....	267
Santiago de Cuba Contest Team .....	261
Southern California Contest Club .....	260
Western WA DX Club .....	256
ARI Perugia .....	254
Lithuania .....	254
HA DX Club .....	243
Ashe County Radio Club .....	240
Interest Group RTTY .....	236
GADX .....	229
North Coast Contesters .....	225
Maritime Contest Club .....	221
WNYDXA.....	220
LUCG.....	218
Fox River Radio League .....	214
RRDXA .....	211
Sunday Creek Amateur Radio Federation.....	208
Southwest OH DX Association .....	207
LU7CZL RC Miramar .....	205
Northeast Wisconsin DX Association .....	205
Radios Sportklub Puspokladany .....	205
Nixa Amateur Radio Club .....	203
GDXC .....	198
Magalies Radio Amateur Klub .....	197
Chilean Pacific DX Group.....	194
CARL, Inc .....	193
Vytautas Magnus University of Kaunas.....	190
Black River Radio Ops.....	180
Northern Ohio DX Association.....	180
Mississippi Valley DX/Contest Club.....	179
CPDXG .....	178
LU Contest Group.....	175
RL .....	175
WACOM.....	171
YO DX Club .....	166
Abel Santa Maria .....	165
Contest Club Serbia.....	163
Secunda Amateur Radio Club .....	161
NERG .....	158
Kentucky Contest Group.....	153
Contest Club Belgium .....	150
Harwell ARS .....	141
Antalya Telsiz ve Radyo Amatorleri Dernegi .....	140
WVDXC .....	139
Grupo DXXE .....	135
Mad River Radio Club.....	134
Shude High School Amateur Radio Club.....	116
YBDXPI — YB-land DXing Passion Is .....	112
Falköpings Radioklubb .....	76
Yogyakarta DX Contest .....	76
Oklahoma DX Association .....	60
RadioClub Queretaro.....	56
Trac Kutahya Brunch Club Station .....	47
Orari Lokal Jakarta Timur .....	40
Williamsburg Area Amateur Radio Club .....	16
ORARI South Jakarta .....	6



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consult the listings for the calls of the certificate winners. Certificates are awarded for the highest 6- and 160-meter scores, top continental score for each of the three modes, top score in each country, top score in each CQ zone, top score in each Canadian call district, top score in each U.S. call area for each of the four DX Marathon classes, plus the top single-mode score in the U.S. Congratulations to all the 2019 certificate winners.

Despite the conditions, 30 all-time records were broken in 2019. New records included nine new country records, seven new U.S. call area records, six new continental mode records, three new zone records, three new U.S. mode records, a new 160-meter record and a new digital record. Even with reduced conditions, breaking records is still very possible.

In the popular club competition, the CDR Group in Brazil once again took top honors with an aggregate score of 10,597. The battle for second place was very close, with the Araucaria DX Group beating the Northern Illinois DX Association by only 33 points. NIDXA is the sponsor of the top three DX Marathon plaques. Don't forget to include your club name on your 2020 DX Marathon submission.

Each year the DX Marathon website <<http://dxmarathon.com>> publishes a large amount of information to help participants minimize errors in their submissions. The Helpful Hints page can be accessed from the DX Marathon home page. In 2019, we published approximately 1,300 callsign exceptions and notes to help every participant reduce the number of errors in their submissions. We also recommend that you regularly update your logging program's callsign database if it has one. Unusual callsign prefixes seem to multiply every year, so updating your program's database is critical to properly determining a DX station's location and/or zone.

In 2019, the number of participants with no errors was about the same as 2018 – 22%, but we did see a significant drop in the overall QSO error rate to 1.5% – the lowest ever recorded in the DX Marathon since electronic scoring was initiated. Perhaps more participants are using the information we provide on the DX Marathon website, plus there is less chance of callsign errors when operating on FT8. The highest error category in 2019 was wrong zone at almost 29% of all errors. This is a significant increase from 2018. Confusion with U.S.

### FT8 and the DX Marathon

When FT8 was introduced, none of us had any idea of the impact that it would make on our hobby. When last year's DX Marathon got underway on January 1, 2019, I decided to pursue the digital category very seriously in the DX Marathon. Of course, my score is not eligible for any awards, but I wanted to experience what FT8 was all about and see what could be done. I was pleasantly surprised at the weak-signal capability of the mode. I was able to work stations that were not audible on frequency and I soon realized that FT8 was exactly what the DX Marathon needed during this point in the sunspot cycle. There were over 310 entities plus zones available on FT8 in 2019, so most active countries were available on FT8. In the end, I ended up with a score of 299, good enough for number 2 in the world. One advantage of FT8 is the quick confirmations as most FT8 users upload their logs often and I was impressed with the speed of confirmations. However, doing one QSO per minute can become tedious, so I will be happy to spend more time on CW in 2020.

– John, K9EL



zones is one of the biggest sources of zone errors. It is very important to note that U.S. callsign numbers are no longer required to match their QTH. A W6 could be in New York, or a KL7 could be in Puerto Rico. In addition to the U.S., there are many special callsigns in Russia that do not follow traditional callsign mapping, thus creating many errors in zones 16, 17, 18, and 19. Zone 2 also continues to be a problem. Very few VE2 stations are located in Zone 2 — most are in Zone 5. The DX Marathon website does list the most active Zone 2 stations. The next highest category was invalid callsigns — callsigns that were entered by participants, but do not actually exist. These accounted for 25% of all errors. Wrong country accounted for 24% of all score reductions, a nice drop from 2018. Busted calls remained at the 19% level. There were many unique callsigns used in 2019 so it is critical to review your DX Marathon submission carefully. The number of bad spots on the DX clusters remains a big problem.

When logging a QSO from a DX spot, listen carefully to the DX station to ensure the callsign is logged correctly. Approximately 45% of all point subtractions were due to busted or incorrect callsigns. Some invalid callsigns may have been busted calls that were so bad that we could not

determine the real callsign. Once again there were many mix-ups between “0” (Zero) and “O” (Oh). The computer is not forgiving, so check your log carefully. There are also mix-ups in dates, with different parts of the world using different date formats. The database that is used for scoring the DX Marathon includes start and end dates for all major expeditions, so please ensure that dates and times are properly logged along with the callsign, country, and zone for each QSO. Not-in-log reductions dropped from 2018. With more logs being posted online, it is easy to check if you are in the log before entering that QSO in the DX Marathon. We do publish a lot of helpful information on the DX Marathon website, but there is nothing we can do to ensure you are in the log.

As part of this issue you will find a complete listing of all scores, plus a listing of the top scores in all available categories. The DX Marathon website will include additional information and details on the 2019 results plus photos of plaque winners as they become available. For any questions or comments about the DX Marathon, please contact the author. Thank you for your participation in 2019 and best of luck in 2020.

## Results 2019 CQ DX Marathon

UNLIMITED CLASS															
Callsign	Countries	Zones	Score												
R6YY	282	40	322	Y09HP	244	39	283	VE3ZZ	208	36	244	NA60	169	36	205
VE3VEE	281	40	321	SQ8N	245	37	282	W3GQ	206	38	244	NJ6G	167	37	204
PY5EG	277	40	317	W0RIC	245	37	282	PY2BEK	206	38	244	WA0JZK	173	30	203
OM3EY	277	40	317	LY7Z	242	39	281	TA4SO	205	39	244	PY2DMZ	166	37	203
K2ZJ	276	39	315	W4JS	241	40	281	PS8MT	204	39	243	PS2T	163	39	202
K3RA	273	39	312	DJ9ZB	240	40	280	HA0HW	205	38	243	K1GU	165	37	202
WN4N	272	40	312	VE3UTT	240	40	280	PU2WSQ	207	36	243	N3QE	170	32	202
DJ3AA	273	38	311	PY2COY	238	40	278	VE5UA	208	35	243	WB2NVR	168	34	202
OK2PAY	271	40	311	F4ESV	238	40	278	K7ACZ	206	36	242	W4CU	166	35	201
9A2AJ	272	39	311	OE1SGU	238	39	277	PY2KP	203	39	242	DL7JAN	163	36	199
JE1FQV	271	39	310	W1AJT	236	40	276	N9LQ	200	40	240	PY2DPM	162	37	199
F6GCP	270	40	310	SV1CNS	239	36	275	W7WM	203	37	240	W9OA	163	35	198
YB5QZ	270	40	310	IK5FKF	235	40	275	K8AC	201	39	240	AF6SA	162	36	198
K5EK	269	40	309	VE2BR	235	40	275	K1ESE	202	37	239	PY2OKB	163	34	197
JA0DAI	269	40	309	OH4UI	235	40	275	K9QVB	202	36	238	PY2TUA	160	36	196
DL5AN	268	40	308	VK3VT	236	39	275	N4MIK	199	39	238	N1RPH	168	28	196
K2TQC	267	40	307	VK3SIM	235	39	274	K9RR	199	37	236	TA7OM	159	36	195
PY5HOT	268	38	306	DL6DH	233	40	273	AA10N	196	40	236	PT7ZT	161	34	195
W9ILY	265	40	305	W07R	233	40	273	AK6A	198	37	235	ZW5B	155	39	194
K9NUJ	266	39	305	A92GE	232	40	272	K2UF	200	34	234	PX2A	168	26	194
N2BJ	265	39	304	PY2APK	232	40	272	GI4DOH	198	36	234	WA4JQS	164	30	194
9A2EU	264	40	304	EA1DR	231	39	270	R9AB	200	34	234	KL7KK	156	38	194
CT1IUA	263	40	303	PY2KNK	231	38	269	VK3MB	194	39	233	NC6R	157	37	194
WE9V	263	40	303	ND9G	229	40	269	SQ3MZM	198	34	232	CE7KF	160	34	194
EV1R	262	40	302	W6OU	233	36	269	OD5ZF	191	40	231	LY2FN	157	36	193
LY3W	262	40	302	PA2LO	229	40	269	W7YAQ	191	38	229	WA9LEY	163	30	193
KC6AWX	260	40	300	W9ZCL	230	39	269	PY1FR	192	37	229	N9LAH	156	36	192
OH2BLD	259	40	299	W4HY	228	40	268	ZS6C	193	36	229	LY3BM	157	34	191
OM5XX	259	39	298	AA6YQ	228	39	267	PY2VM	193	36	229	LY2PAD	153	37	190
N6JV	259	39	298	PY40Y	227	40	267	AE5X	189	38	227	N7US	155	34	189
PA3FQA	260	38	298	K6XT	228	39	267	W4PNY	188	36	224	K9ARZ	164	25	189
K3WA	256	39	295	5P1KZX	226	36	262	RA0LQ	187	37	224	PU5KGB	158	31	189
ZL2IFB	254	40	294	PY4AZ	223	38	261	VE10P	187	34	221	PY1ZV	155	34	189
N6WT	253	40	293	K9PPY	221	39	260	K8YC	188	33	221	KD8NYO	156	31	187
OD5YA	253	40	293	NI3P	220	38	258	PY2NF	183	38	221	TF3DC	155	32	187
K4ZO	253	40	293	W4HG	220	38	258	W1NK	185	35	220	PY2GZ	151	36	187
NU8Z	253	40	293	K9KE	218	40	258	K9CJ	183	37	220	ZL1BBW	152	34	186
CT3MD	252	40	292	VK3KTT	218	40	258	KB0EO	182	38	220	PY2XC	150	36	186
TA2LG	252	40	292	PY2AE	217	40	257	N4KW	185	34	219	LA3MHA	146	38	184
PY7ZZ	251	40	291	W9JJB	220	37	257	JN3SAC	180	39	219	NY9H	144	37	181
K5BG	251	39	290	VK3AWG	216	40	256	E17CC	182	37	219	PU4GOD	150	31	181
PP5JR	249	40	289	W57L	217	39	256	BV1EK	179	40	219	Y06DDF	151	30	181
W9MK	249	40	289	W7CD	217	39	256	LU2JCV	182	36	218	W8AV	146	34	180
W4QN	250	39	289	K9JU	217	39	256	WD9DZV	183	34	217	PY2AB	146	34	180
K9NB	249	40	289	PY6HD	216	39	255	PY2WND	179	38	217	KD8NYP	145	34	179
DL1NKS	252	37	289	LY2MM	215	39	254	VA7CRZ	179	37	216	PY2OAL	147	32	179
W5IF	250	39	289	LY50	215	39	254	K9RX	178	36	214	NI0C	145	34	179
PY5DK	250	39	289	K9CT	214	39	253	PT2VHF	183	30	213	PP1WW	143	35	178
I25CML	250	39	289	K6YK	214	39	253	SV9COL	174	38	212	PU2OOC	143	35	178
W9KNI	249	40	289	G3SBP	215	37	252	PY5QW	172	39	211	CE3BT	142	36	178
HK3W	249	40	289	VU2IBI	213	39	252	RJ0LL	174	36	210	W3OA	144	33	177
VF2XGF	247	39	286	ON6NL	211	40	251	K9DX	174	36	210	K6UM	139	38	177
VK3BDX	246	40	286	PY5KD	211	40	251	PY2RTB	169	38	207	PU90JZ	144	33	177
N4PQX	245	40	285	WX6V	212	39	251	7Z1SJ	168	39	207	H89DDZ	145	31	176
JH4UYB	245	40	285	W6XK	210	39	249	AJ8B	171	36	207	PS8RV	151	24	175
N3SL	243	40	283	K8AJS	208	39	247	K7ZV	169	38	207	K1SND	144	31	175
				PY7DJ	207	40	247	K6OK	168	38	206	PR7AB	141	33	174
				PY6TS	208	38	246	AA9A	169	36	205	PU2KNM	138	35	173

