

NATWJ

Amateur Radio Operation



Purpose and Goals

WE REMAINED TRUE TO OUR ORIGINAL PURPOSE AND MET OUR GOALS



Statement of Purpose

- Introduce the science, technology, fun, and magic of amateur radio operation to Scouts and Scout leaders from around the world.
- Serve as the amateur radio voice of the Jamboree via two-way radio contacts within the Summit and worldwide.

In addition, other aspects of amateur radio conducted included: amateur radio direction finding or ARDF-Foxhunting finding hidden transmitters, contacts with amateur radio satellites, and a scheduled contact with an astronaut on board the International Space Station. We also launched four balloons with amateur radio payloads and tracked them as they crossed the Atlantic.

Jamboree Goals

- Operate a demonstration station with a goal of introducing 3,000+ Scouts to amateur radio.
- Provide an ARDF-Foxhunting course with expectations of over 100 teams completing the course.
- Provide high visibility events for participants, such as a two-way contact with an astronaut on the International Space Station.
- Make contacts worldwide with amateur radio and Scouting enthusiasts to allow them to participate at-a-distance in the Jamboree.

NA1WJ also operated social media and website channels to engage a broad audience both within and outside Scouting.

Numbers

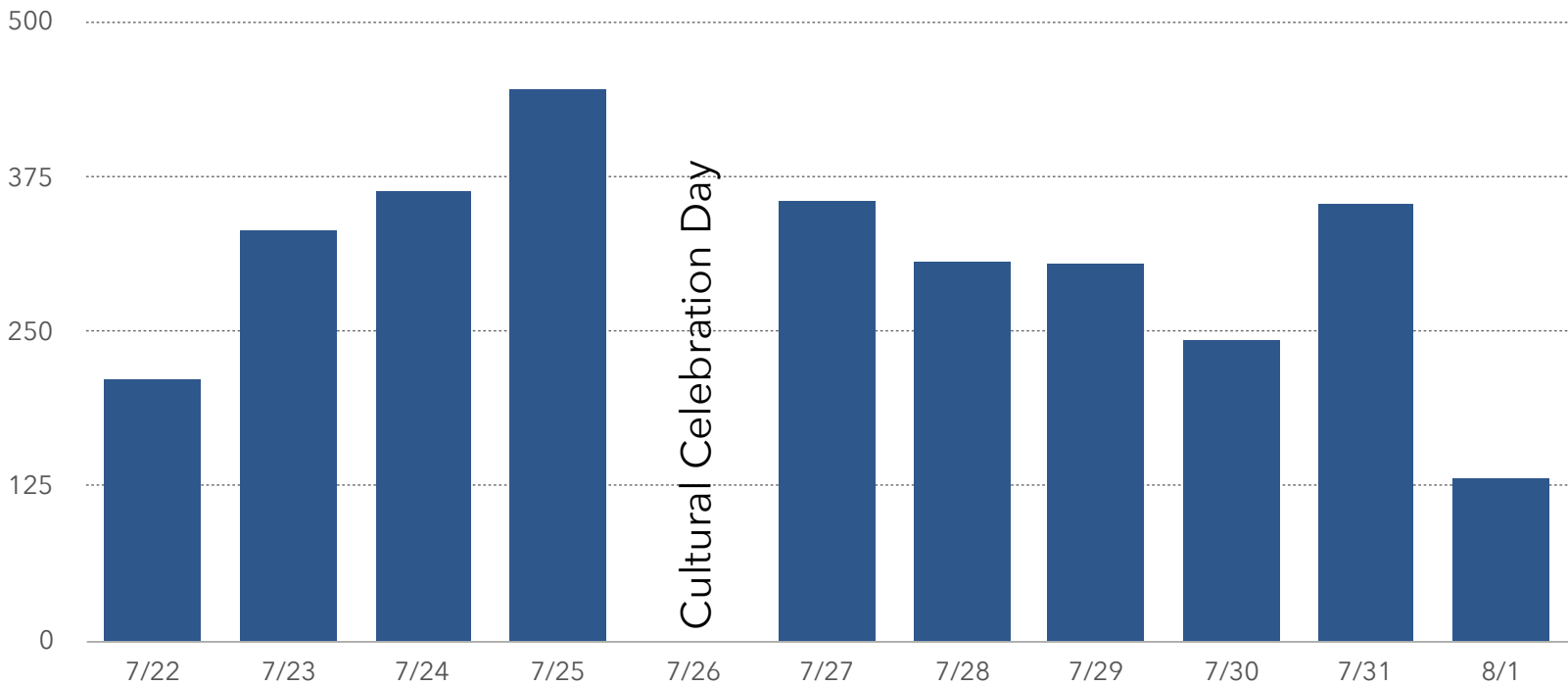
WE MET ALL OUR GOALS



Scout Participation

Description	Number
Amateur Radio Demonstrations	3,043 Scouts
Amateur Radio Two-Way Contacts Logged	4,163 contacts
Countries Contacted	86 DXCC countries
ARDF - Foxhunting Participants	211 Scouts
International Space Station Contact	240 Scouts and Leaders
Balloon Launches (3 during Jamboree)	73 Scouts

SCOUTS ENGAGED IN AMATEUR RADIO DEMONSTRATIONS



What Worked

MULTIPLE CULTURES AND SKILL SETS WORKED TOGETHER TO MAKE IT ALL HAPPEN



Fabulous Teamwork

Staff Recruiting and Qualification Survey worked well to identify those qualified to do the work.

Bill of Material process worked well to define what was needed – and it was delivered. Yet we didn't realize that services were also to be listed here.

Bucket truck installation and tear down went well. The tent lighting was perfect for the night operations.

Quartermaster role filled by Donald Sonnefeld accomplished a great deal throughout the Jamboree as well as in the lead up including delivery of key items to the Summit.

Coffee supplies cost little and added a great deal to the station. Do it again.

Mike Crownover's work in obtaining JK Antennas beams worked very well. Hector Garcia, XE2K, did an exceptional job with onsite assembly.

Remko Welling's experience and expertise developed during previous world events suited our requirements well for the demonstration station operations.

Ilene Arends with Ellie Sparrow and Tobias Senti on the front desk proved extremely helpful in bringing in Scouts, explaining the operation, and getting them to a demonstration position.

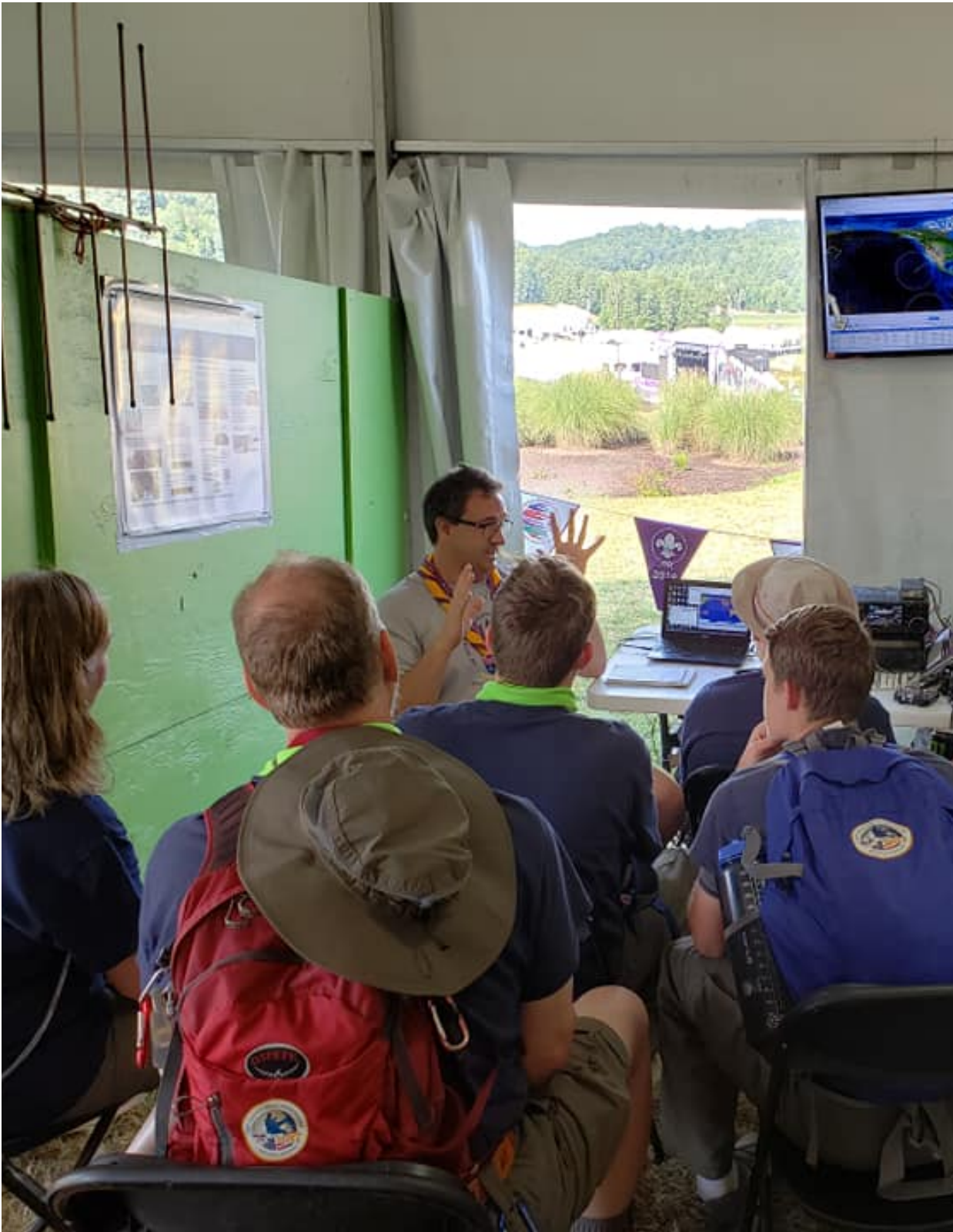
Bill Stearns did an exceptional job generating social media interest through live Facebook webcasts of station operations as well as videos of balloon launches and the ARISS contact.

Mike Sprenger's audio expertise really helped the ARISS contact. Rick Smith was ever present to sort out issues at the station, including assembly and disassembly.

Local ham Chris Hatcher pitched in where ever needed. He completed all the repeater updates, working with Icom America, provide equipment and accepted deliveries of equipment – driving them to our station for installation. Great work Chris.

Everyone pitched in to make this a successful event.

NA1WJ DEMONSTRATION STATION



ARISS CONTACT WITH ASTRONAUT DREW MORGAN

Amateur Radio – Out of this World

One year in the making from education plan proposal to equipment plan to scheduling, and then actual contact. Many at ARISS helped with the proposal and equipment, chiefly Rosalie White and John Kludt, and Jan Poppeliers for the downlink. A key driver was Astronaut Drew Morgan, assistant Scoutmaster, who really wanted to make this contact happen.

Our drawing for participating Scouts numbered 10 with 6 alternates. Nine showed up for preparation and one joined us on stage right before the contact. Big hats off to Donald Sonnefeld who personally contacted every one of the 16 Scouts or their leaders the day before to alert them to the opportunity.

In addition, Bob Scott alerted us to the World Point Stage with visual screen and then Marc Circus and his staff, supported by Mike Sprenger made it happen.

The 10 Scouts talking with the astronaut came from the following countries:

- Australia,
- Bolivia,
- Iceland,
- Japan,
- Pakistan,
- Sweden,
- UK,
- USA.



ARISS CONTACT



BALLOON LAUNCHES

Showmanship and Expertise

Mike Cullen took on the role of balloon launcher and spent a great deal of time getting up to speed in this new area. His showmanship and engagement of the audience really made this work.

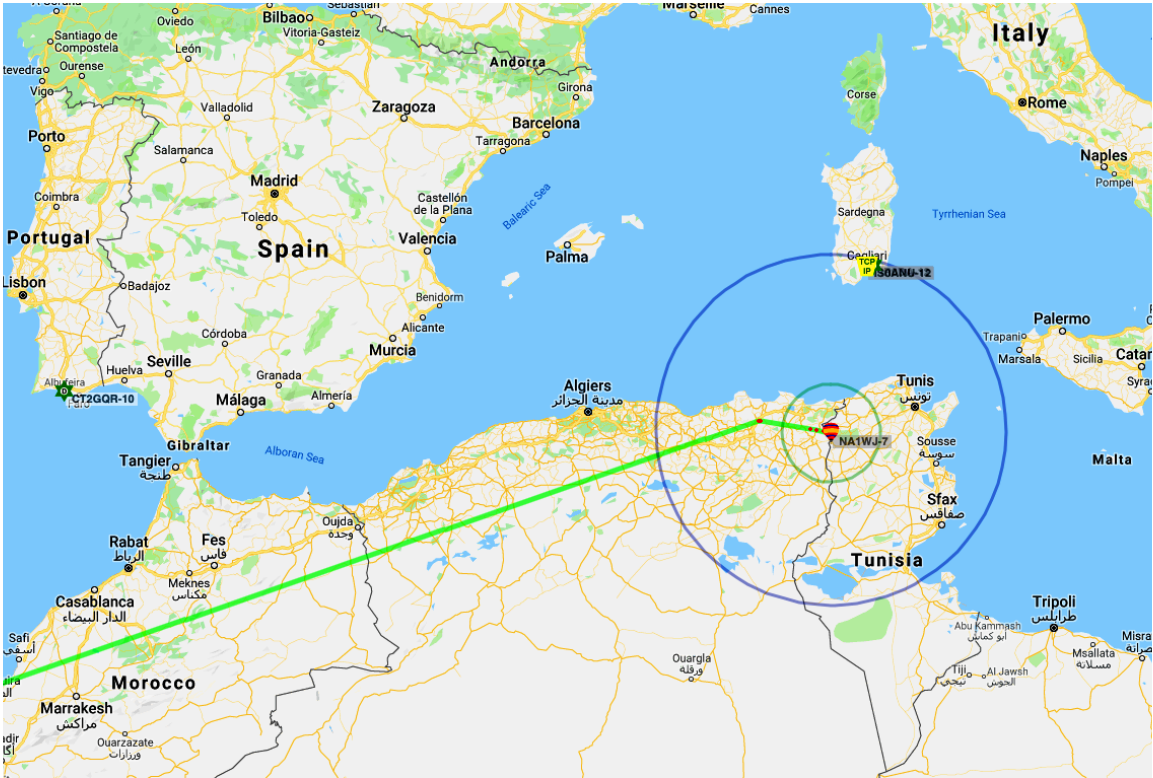
All four balloon launches were successful. Two unfortunately ran into thunderstorms and crashed. Two crossed the Atlantic Ocean, one making it to Madrid, Spain and the other to Tunisia – and we believe it may still be flying but out of range of APRS reporting at the moment.

Bill Stearns' live videos of the launches was extremely helpful in generating interest and documenting the flights.

Bill Brown's balloons, amateur radio payloads, and step-by-step instructions made it all possible.



BALLOON LAUNCHES



ARDF FOXHUNTING

High Interest Level from Scouts and Leaders

Scout participants came from Canada, U.S., Mexico, Aruba, Columbia, Peru, Brazil, Chile, Iceland, Finland, Ukraine, Norway, Sweden, Denmark, Netherlands, Belgium, Germany, Austria, Czech Republic, Ireland, U.K, France, Monaco, Lichtenstein, Slovenia, Hungary, Italy, Romania, Malta, Egypt, South Africa, India, Sri Lanka, Nepal, Taiwan, Japan, Thailand, South Korea, Australia, New Zealand, and Malaysia..

ARDF's scouters/scout adult volunteers came from Australia, Taiwan, Norway, Germany, and the U.S.

Five hidden 15 milliwatt 2 meter band transmitters were placed on trees within 1/2 mile of our operation. For scouts with limited time, we used five, low power 80 meter transmitters placed nearby.

ARDF shared a site with orienteering and geocache activities within the "Exploration" program area.

Of note, highly successful groups of older scouts from Brazil and Malta returned on subsequent days with younger scouts and were mentored in the activity by the older scouts.

The ARDF team had at least a dozen detailed discussions with scout leaders on how to establish stronger scout ARDF activities within their home countries.

A big "Thank You" to Brian Coleman, KB0MAP, and his orienteering team for providing a turn-key set of ARDF equipment, facilities, and ongoing "can do" support for the 24th World Scout Jamboree.



QSL CONFIRMATIONS

QSLs - Confirming Contact

As of 9-August-2018 the NA1WJ Logbook of the World account had 1,585 QSL Confirmations.

Direct QSLs are being received via mail by Donald Sonnefeld, KD2FIL, our QSL manager. We are also accepting QSL requests via ClubLog's Online QSL Request Service.

The QSL card shown here was provided courtesy of our sponsor Icom America.

The logbook is posted at <https://k2bsa.net/na1wj-logbook-qsl-request/>



PHOTOS FROM NA1WJ – LEARNING AND DISCOVERY UNDERWAY



ODDS & ENDS & BEGINNINGS

Marriage Proposal – Our staff member Ellie Sparrow received a surprise marriage proposal during the Jamboree from her now fiancé James. We offer congratulations to both on their engagement.

License Testing – An FCC amateur radio license testing session was arranged for Scott Wyatt from BSA IT staff and our own staff members studied and passed the exam: Ellie Sparrow, Tobias Senti, Robert Elsinga, Remko Welling, and Hannu Ratto, Banda. We are currently waiting on their call signs to be issued.

W8J and JOTA-JOTI Display – We provided equipment and a small level of support to the WOSM JOTA-JOTI Display. We enjoyed their aged but effective Morse Code game.

Radio Scouter Meetup – As done at previous World Jamborees, we hosted a Radio Scouter meet up for all those engaged in amateur radio. We had 51 in attendance and provided cake and sodas.



Amateur Radio at the Jamboree – 302 Licensed Hams signed our front desk logbook – Scouts, Leaders, Visitors.

Nightly Net – We operated a nightly net on the 2 meter repeater which was also on Echolink.

Satellite Contacts – Thanks to Paul Trotter, AA4ZZ, we had very sophisticated satellite antennas with az-el tracking. Overall, we managed 100+ satellite contacts which were a highlight for many Scouts and Leaders.

STAFF MEMBERS

33 Top Notch IST

Our staff members are shown here in the T-Shirts provided by Sjaak Van Dam, PA3GVR/W4RIS. Thank you all for your superb teamwork and just plain handwork making everything happen.

Ilene Arends, KD9NKX

Stein Ankarstrand, LA4MIA

Bill Bode, N4WEB

Michael Cullen, K1NPT

Isabel Carreño, CE3TLE

Alejandro Candia, CE3JVS

Mike Crownover, AD5A

Andy Dunn, VE3XAD

Juliane Dunn, VA3JBD

Robert Ellis, VK5LBE

Robert Elsinga, PC5E

Charles Gardner, Z21LW

Scott Hooper, HB9EAR/KT0P

Frank Hohmann, DL5FCV

Kaize Hong (Jerry), BU2DE



Moriya Kajiki, JE3PPG/AI6VE

Jeroen Limbosch, PE1PDI

Axel Limbosch, PE1NLM

Tatsuo Mochiki, JH1FEL

Kevin Ong, 9M2KEV/N2KEV

Demi Pulas, K4BSA

Hannu Ratto, Banda, OH7GIG

Mike Sprenger, W4UOO

Bill Stearns, NE4RD

Rick Smith, N6GSE

Tobias Senti, pending

Elinor Sparrow, pending

Donald Sonnefeld, KD2FIL

Ichiro Tanemura, JG2GFX

Sjaak (Willem) Van Dam, PA3GVR/W4RIS

Remko Welling, PE1MEW

Jim Wilson, K5ND

Gary Wilson, K2GW

NA1WJ SPONSORS

Thank You - Thank You - Thank You

Icom America is the amateur radio transceiver supplier for the World Scout Jamboree based on their previous support to Boy Scouts of America National Jamborees. They have already provided three repeaters in a permanent installation at the Summit. They also loaned transceivers and other gear for use in the demonstration station as well as for station W8J in the World JOTA-JOTI display. Transceivers included: IC-7300, IC-9700, ID-5100A, and IC-7100.

DX Engineering has already provided hex beam antennas, vertical antennas, cables, connectors, tri-plexers, and bandpass filters for use in the demonstration station. This was a 2017 Jamboree donation.

MFJ Enterprises in 2017 provided dipole antennas, headphones, and rotator. For 2019 they provided keys, paddles, code readers, power supplies, and additional headphones.

JK Antennas for 2019 provided HF antennas including a 20-15-10 m Yagi (C3S), a 40 m rotatable dipole, and a 20-17 m Yagi.

Geochron provided a Geochron Digital 4K UND for display at the demonstration tent.

Dog Park Software provided MacLoggerDX and MacDoppler specifically to support our satellite operations.

Thanks to all our sponsors and supporters. Their equipment and software were greatly appreciated and provided a superb example of amateur radio for the Scouts participating in the 24th World Scout Jamboree.

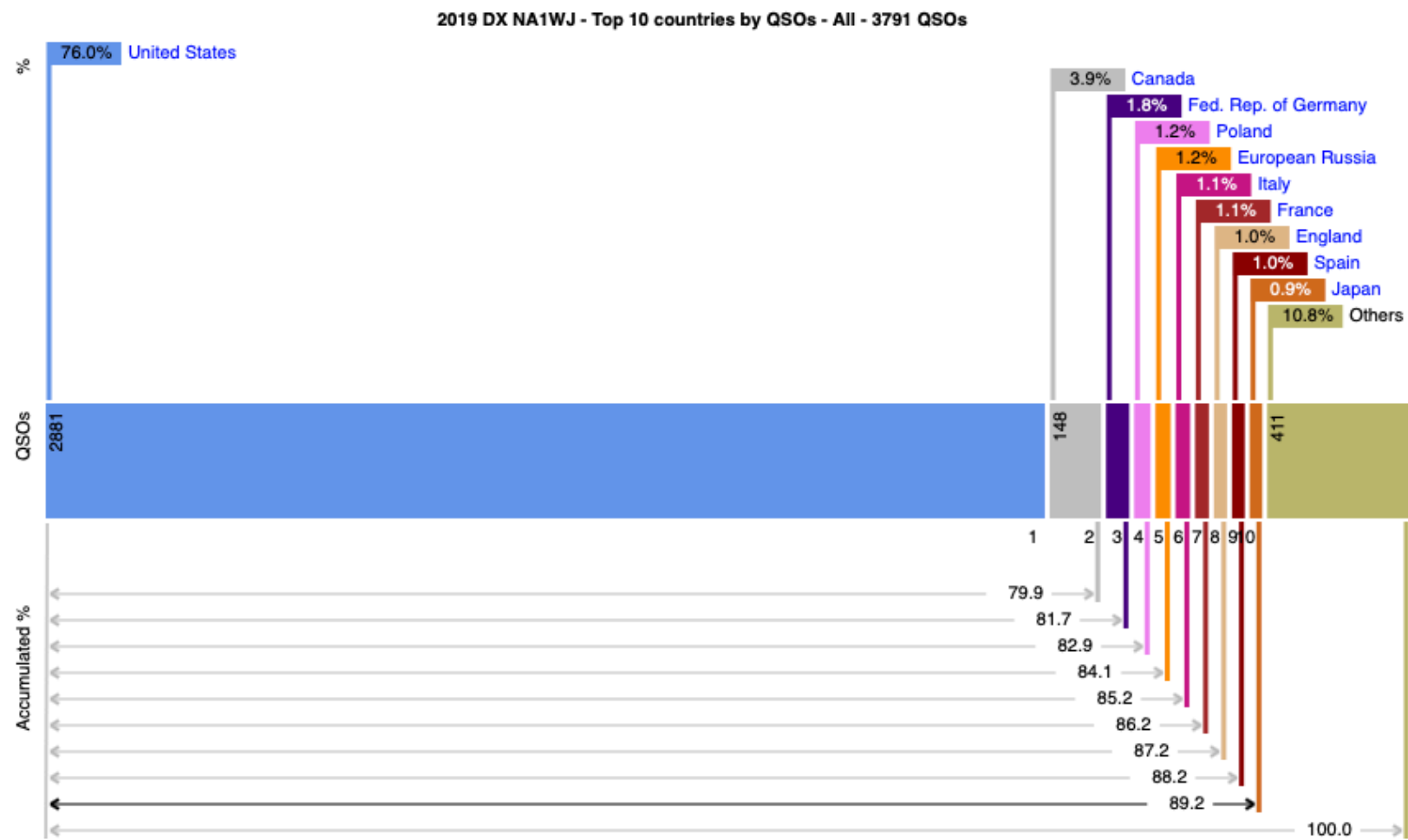


LOGBOOK ANALYSIS

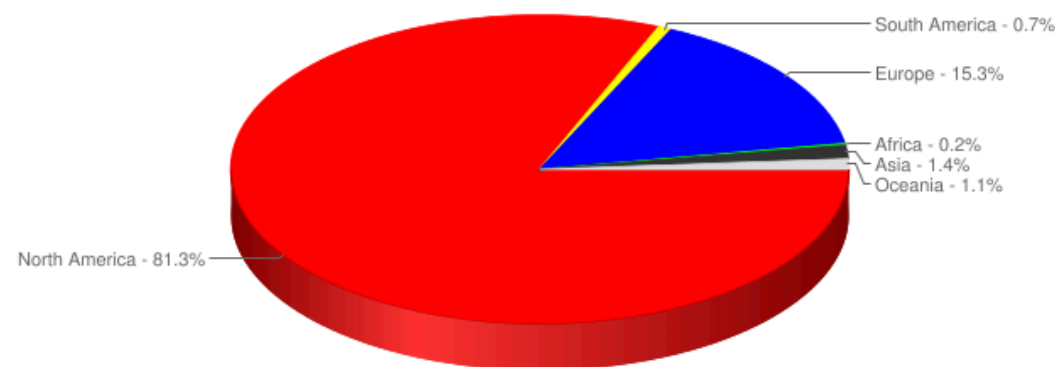
Top 10 countries

Band: 80m 40m 20m 30m 17m 6m All

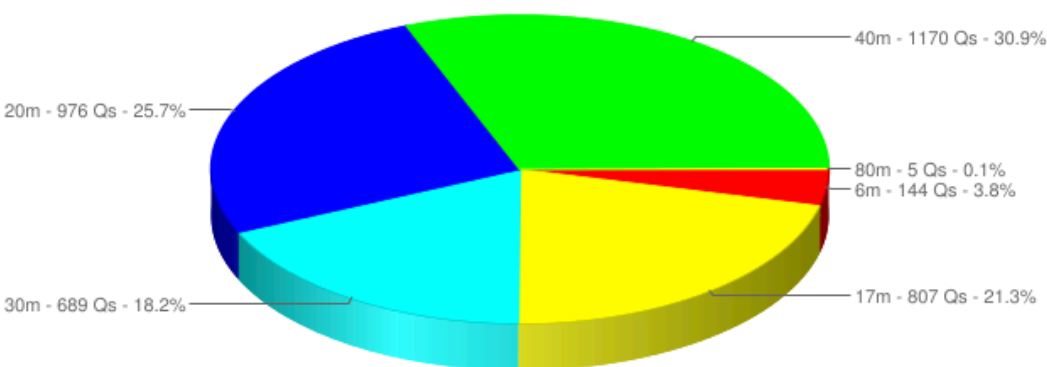
Further logbook analysis is available at <https://log.na1wj.net/index.htm>



2019 DX NA1WJ - Continents - All m (3791 Qs)



2019 DX NA1WJ - Qs by band



What Didn't Work

LET ME COUNT THE WAYS



Complex Jamboree Organization – Technical Challenges – Mud

In the run up to the Jamboree many, many aspects reminded us of the worst of corporate mismanagement – there were staff cuts, equipment/tent cuts at the last minute, a battle to maintain access to the station antennas for the bucket truck installation, and more.

For many leaders, if not most, this was their first jamboree experience and they were inventing their program along the way. For others, they were reacting to all too late recognition of serious shortfalls in resources including people, money, and equipment.

As one example, there were seemingly never ending deadlines to complete the Bill of Materials. The NA1WJ operation met all dates starting in December 2017 – but never once received a final officially approved BOM so we could never be assured of what we'd actually have.

Our worst moment was the demand that two tents be cut that effectively closed the ARDF-Foxhunting program. We were fortunate in working with Exploration - Orienteering/Geocaching to find Foxhunting a home. But the location was far from ideal with limited visibility for Scouts and it completely dropped the important connection to amateur radio.

Our laptop request was for 21, but we received 9. This was revealed 2 days before leaving for the Jamboree. Fortunately this was quickly supplemented by personal laptops brought by staff members. This was yet one more example of the never ending scramble to make up for crippling shortfalls.

Our technical challenges had most to do with cross station interference. We have bandpass filters but they were less than optimum for the 30 meter and 17 meter bands, which are never included in contest station environments. More work is needed here for future jamborees.

The weather was generally favorable. A few very rainy days at the beginning of the Jamboree showed what is possible in West Virginia in the summer. We had a small stream going through our tent. Perhaps we can fund a floor for the next Jamboree.

Opportunities for 2021 USA Jamboree

AMATEUR RADIO FOR 2021



Thoughts on Improvement for future Jamborees

The greeting team really needs four members. The demonstration process could be streamlined and specialized with this broad outline as one possibility:

- Intro Host – briefing to guests on amateur radio and what it is (visuals on wall).
- Demo Operator – Quick QSO only (briefing on PTT and ops but no more). Allows them to keep the frequency and other stations on the line.
- Exit Host – Answer questions and route them to rewards.
- Host wears lanyard or something similar to recognize their role.
- Two operators per station for each shift to allow for breaks.
- Option for Intro Host to bypass demo for those who are only interested in an overview.

Need separate conversation room to get the barking hams/scouters somewhere else.

SH5 log analysis including mapping of QSOs on front monitor. No need for videos or DVD.

BOM add 8x10 foot divider screens rather than the partitions.

Add services needed (bucket truck) to the Bill of Materials.

ARDF can use 80m as intro in 5 to 10 minutes. Then into more complex on 2 meters.

Overnight ops worked. Get lighted tent as well. See logs and breakdown by bands and ops.

Good information on how to make stubs actually work at <http://k9yc.com/Multi-Station.pdf>

The equipment is stored and we've developed a detailed inventory that should help greatly in the build up for the next Jamboree.

POTENTIAL FLOOR PLAN FOR 2021 DEMONSTRATION STATION

