Using PSK Reporter As A Propagation Tool

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Tools

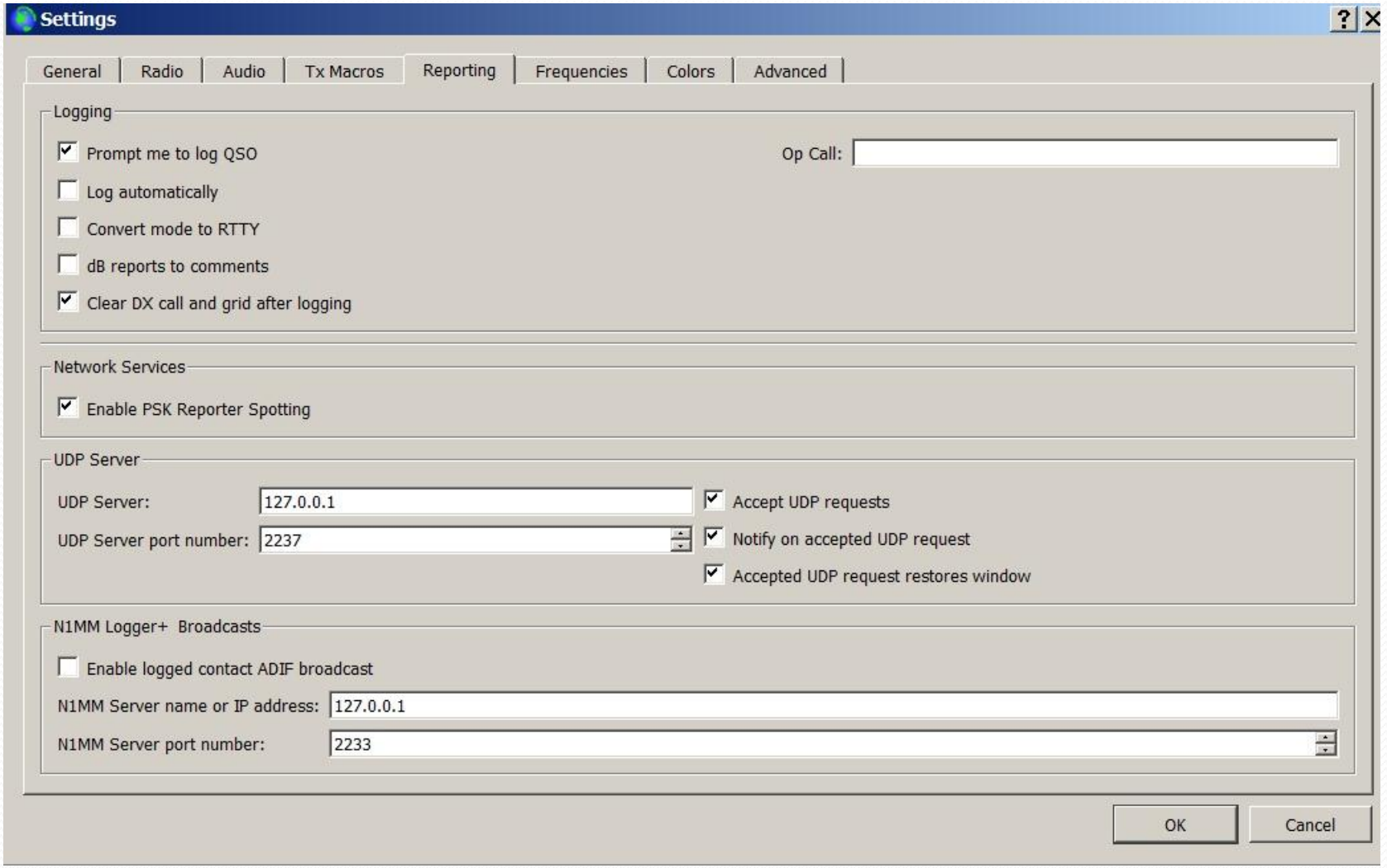
- PSK Reporter – What this presentation is mainly about
- Clublog – A tool to manage and compare logs and to analyze logs. Also many DX tools, most wanted, first worked, needed countries, QSO totals by year, band, mode, etc.
- Logbook of The World (LoTW) – ARRL's electronic QSL service, the only place to officially apply for awards such as WAS and DXCC
- Your logbook program – Ham Radio Deluxe (HRD), ACLog, etc.

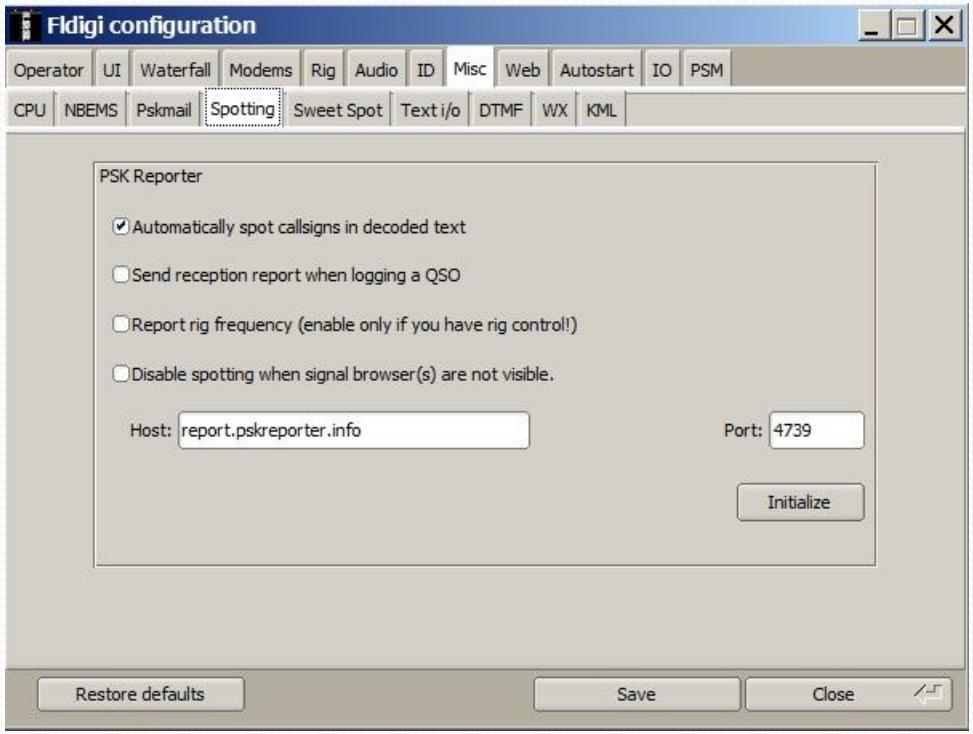
PSK Reporter - Overview

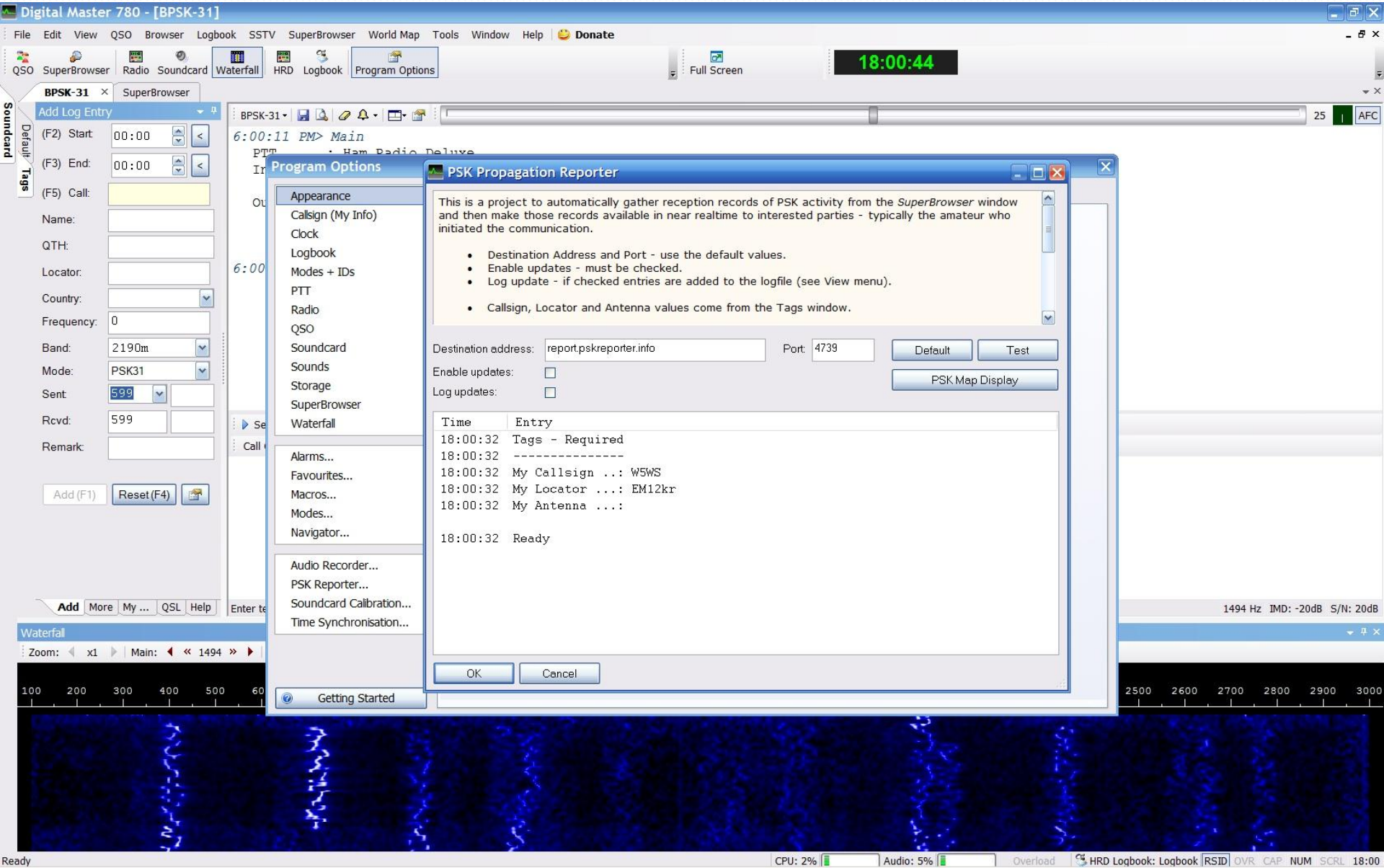
- PSK Reporter – Developed by Phillip Gladstone to gather reports of PSK activity. That information can be displayed on a map on the PSK Reporter website or the data can be downloaded by anyone interested

- Enable reporting in your digital mode software.

- How it works – PSK Reporter client software will make a record of a transmission that is in the form of “CQ callsign” in FT8 or “CQ callsign callsign” in PSK, it will then send the data to the PSK Reporter server.


Settings
General
Radio
Audio
Tx Macros
Reporting
Frequencies
Colors
Advanced
Logging
Prompt me to log QSO
Op Call:
Log automatically
Convert mode to RTTY
dB reports to comments
Clear DX call and grid after logging
Network Services
Enable PSK Reporter Spotting
UDP Server
UDP Server:
127.0.0.1
Accept UDP requests
UDP Server port number:
2237
Notify on accepted UDP request
Accepted UDP request restores window
N1MM Logger+ Broadcasts
Enable logged contact ADIF broadcast
N1MM Server name or IP address:
127.0.0.1
N1MM Server port number:
2233
OK
Cancel


Fldigi configuration
Operator
UI
Waterfall
Modems
Rig
Audio
ID
Misc
Web
Autostart
IO
PSM
CPU
NBEMS
Pskmail
Spotting
Sweet Spot
Text i/o
DTMF
WX
KML
PSK Reporter
Automatically spot callsigns in decoded text
Send reception report when logging a QSO
Report rig frequency (enable only if you have rig control!)
Disable spotting when signal browser(s) are not visible.
Host:
report.pskreporter.info
Port:
4739
Initialize
Restore defaults
Save
Close


Digital Master 780 - [BPSK-31]
File Edit View QSO Browser Logbook SSTV SuperBrowser World Map Tools Window Help Donate
QSO SuperBrowser Radio Soundcard Waterfall HRD Logbook Program Options
Full Screen
18:00:44
BPSK-31 SuperBrowser
Add Log Entry
(F2) Start: 00:00
(F3) End: 00:00
(F5) Call:
Name:
QTH:
Locator:
Country:
Frequency: 0
Band: 2190m
Mode: PSK31
Sent: 599
Rcvd: 599
Remark:
Add (F1) Reset (F4)
Add More My ... QSL Help
6:00:11 PM> Main
Program Options
Appearance
Callsign (My Info)
Clock
Logbook
Modes + IDs
PTT
Radio
QSO
Soundcard
Sounds
Storage
SuperBrowser
Waterfall
Alarms...
Favourites...
Macros...
Modes...
Navigator...
Audio Recorder...
PSK Reporter...
Soundcard Calibration...
Time Synchronisation...
Getting Started
PSK Propagation Reporter
This is a project to automatically gather reception records of PSK activity from the SuperBrowser window and then make those records available in near realtime to interested parties - typically the amateur who initiated the communication.
Destination Address and Port - use the default values.
Enable updates - must be checked.
Log update - if checked entries are added to the logfile (see View menu).
Callsign, Locator and Antenna values come from the Tags window.
Destination address: report.pskreporter.info
Port: 4739
Default
Test
Enable updates:
Log updates:
PSK Map Display
Time Entry
18:00:32 Tags - Required
18:00:32 ---------------
18:00:32 My Callsign ..: W5WS
18:00:32 My Locator ...: EM12kr
18:00:32 My Antenna ...:
18:00:32 Ready
OK
Cancel
Waterfall
Zoom: x1 Main: 1494
1494 Hz IMD: -20dB S/N: 20dB
Ready
CPU: 2%
Audio: 5%
Overload
HRD Logbook: Logbook
RSID OVR CAP NUM SCRL 18:00

PSK Reporter Statistics

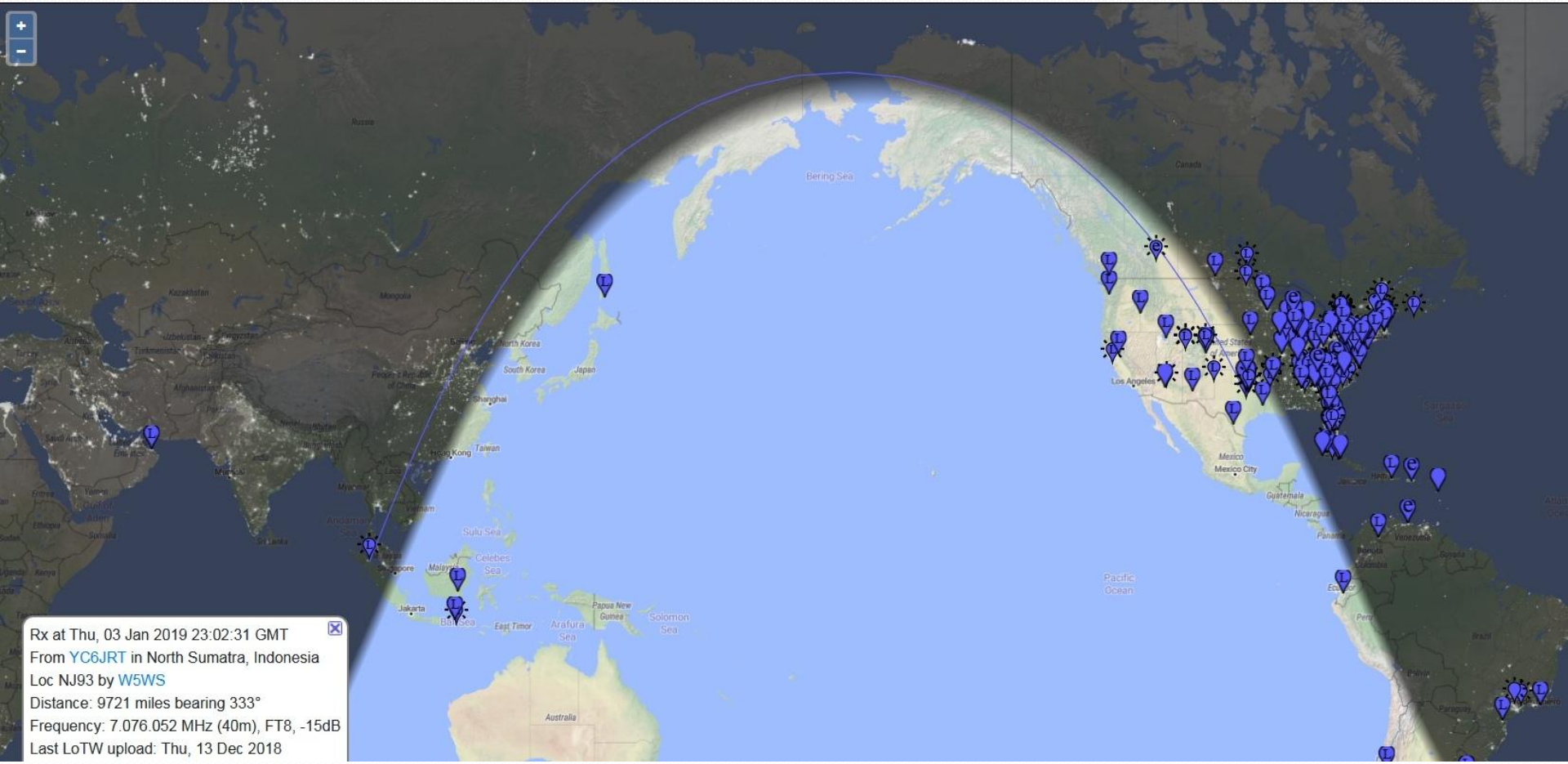
- From pskreporter.info/cgi-bin/pskstats.pl
- An average of about 3000 monitors per hour, 4500+ at peak times.
- An average of over 500,000 reports per hour, 800,000+ at peak times
- Top monitors will monitor multiple bands and submit 1000 reports per hour or more
- Top monitors will report over 125 countries per day
- FT8 is most common mode by far

PSK Reporter – Reception Reports

- pskreporter.info/pskmap.html
- Display Options
- Signals Received/Sent
- Countries Received/Sent
- Distance Chart
- Active Monitors
- Show Logbook

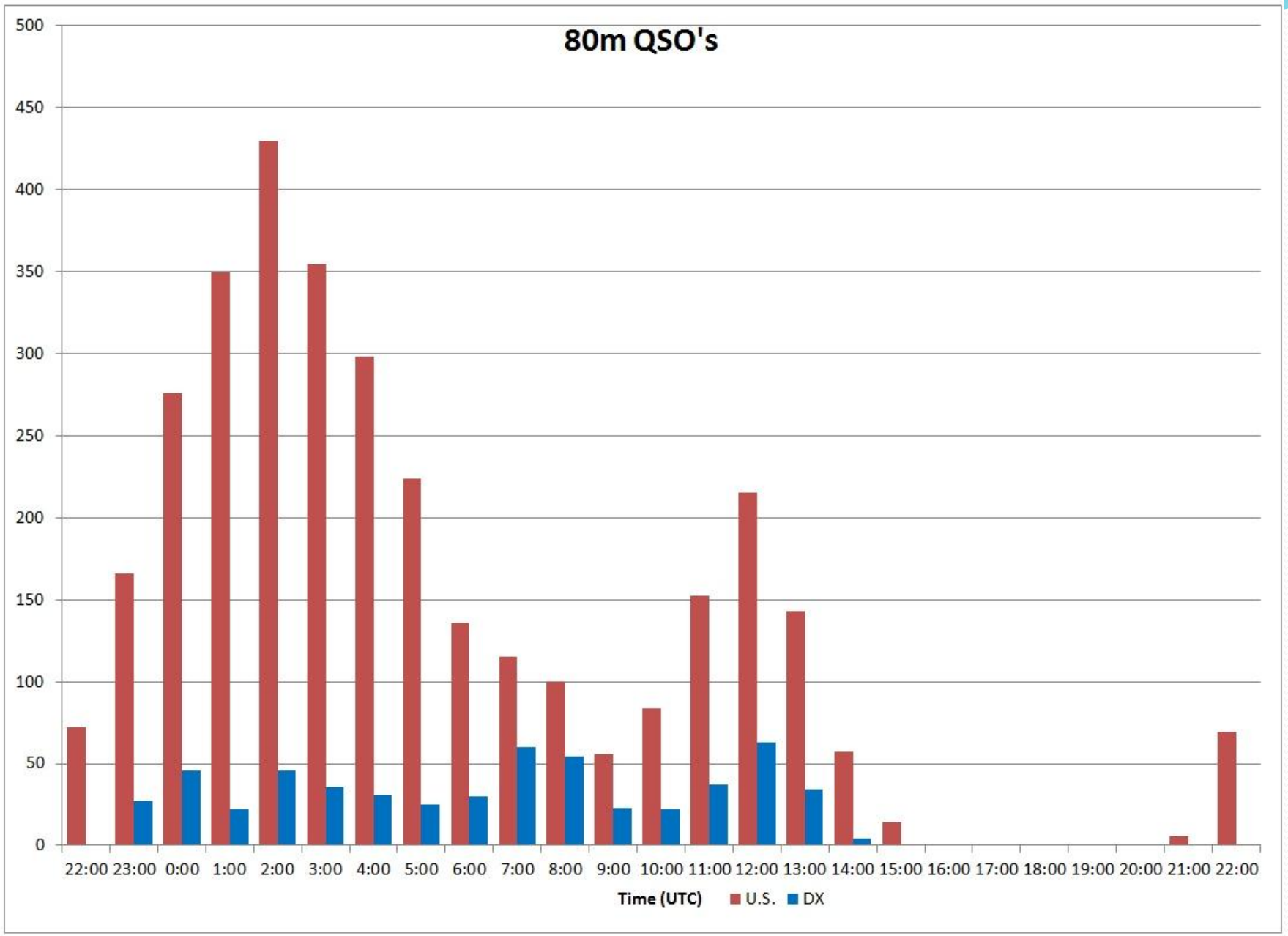
Propagation

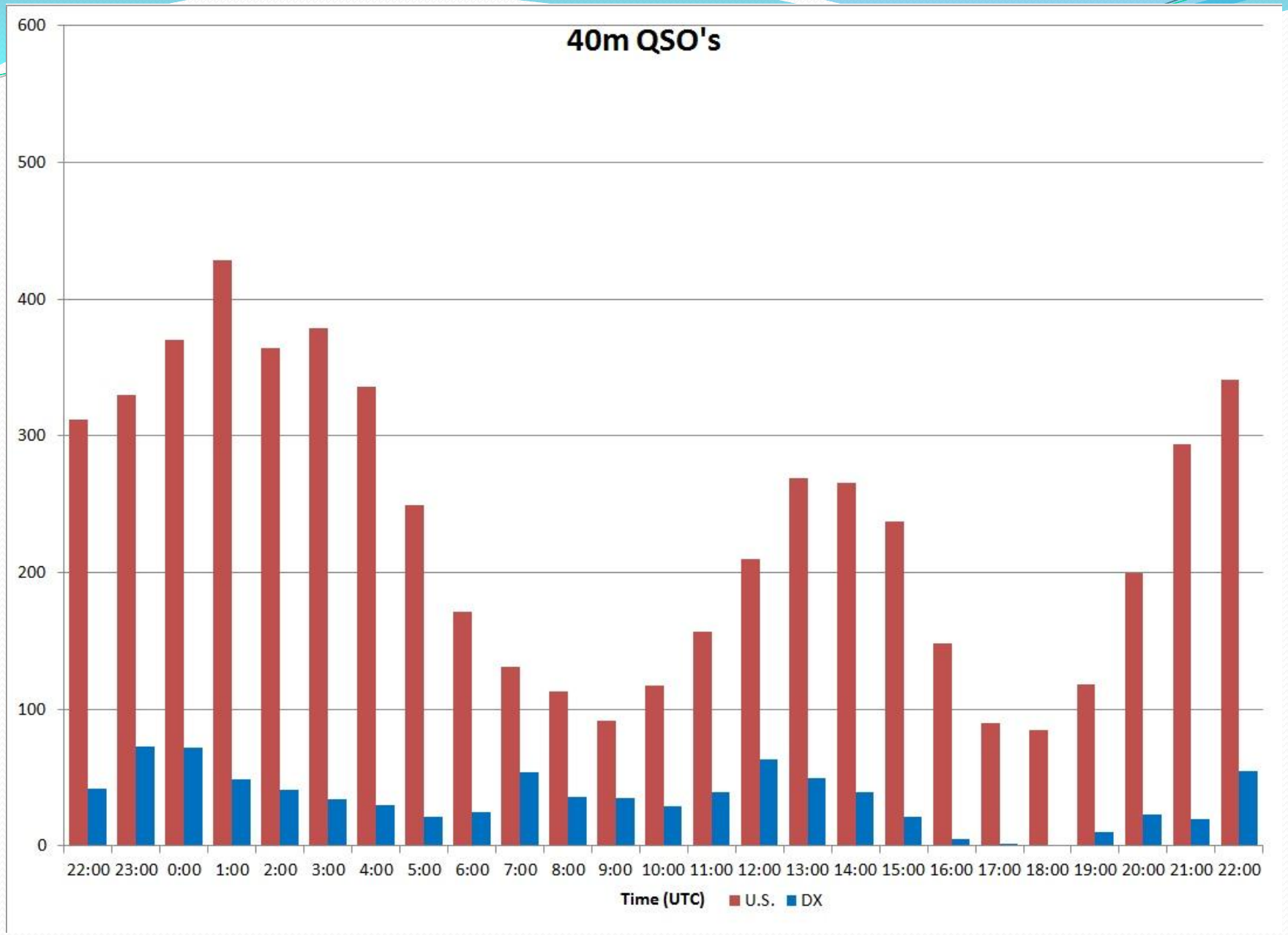
- Solar Cycle
- Time of Year
- Time of Day
- Mode
- Layers – D, E, F1, F2
- Maximum Usable Frequency aka MUF
- Angle of incidence
- Grayline

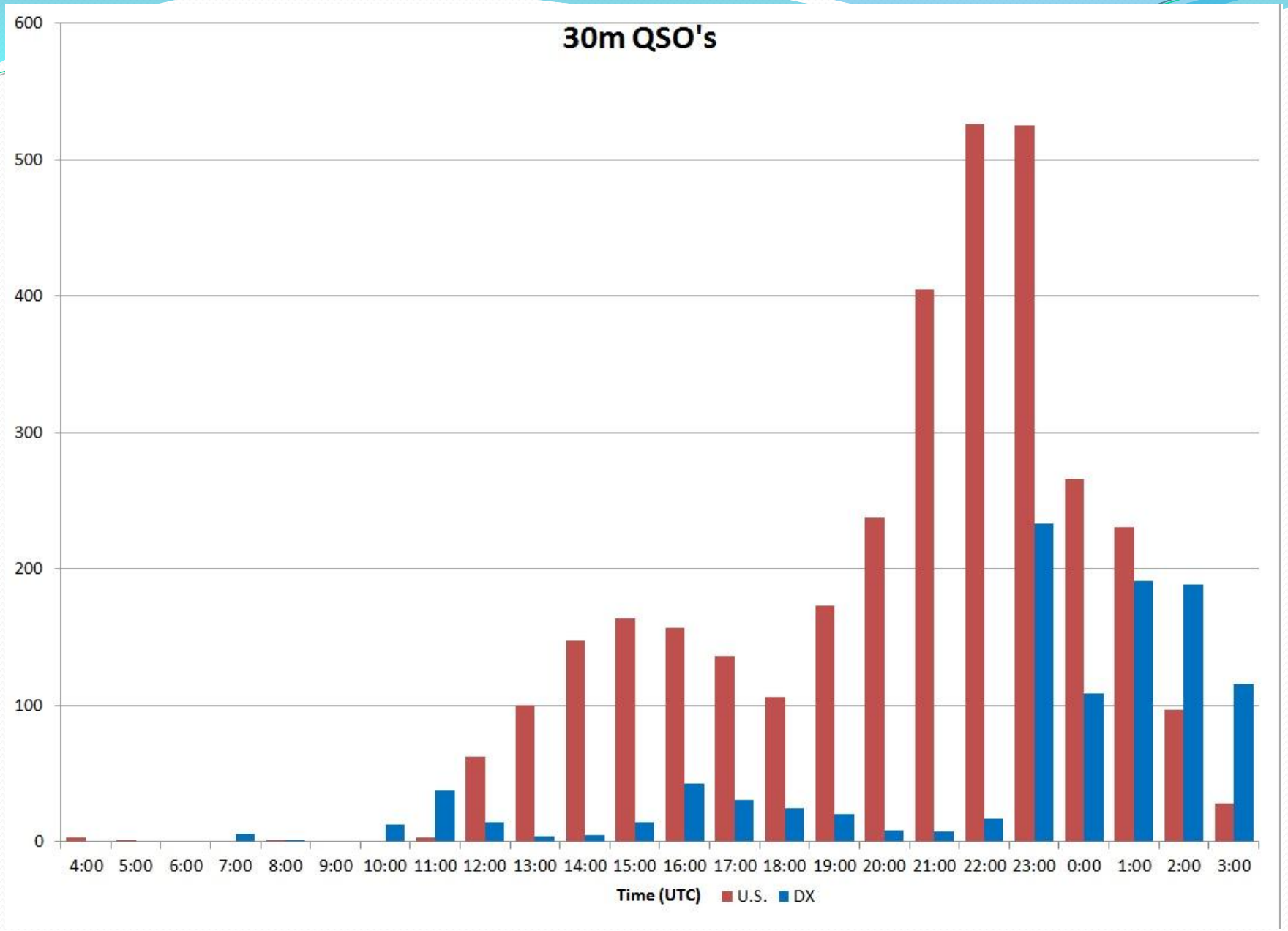

Rx at Thu, 03 Jan 2019 23:02:31 GMT
From YC6JRT in North Sumatra, Indonesia
Loc NJ93 by W5WS
Distance: 9721 miles bearing 333°
Frequency: 7.076.052 MHz (40m), FT8, -15dB
Last LoTW upload: Thu, 13 Dec 2018
Bering Sea
Pacific Ocean
Australia
Los Angeles
Mexico City
Shanghai
Jakarta

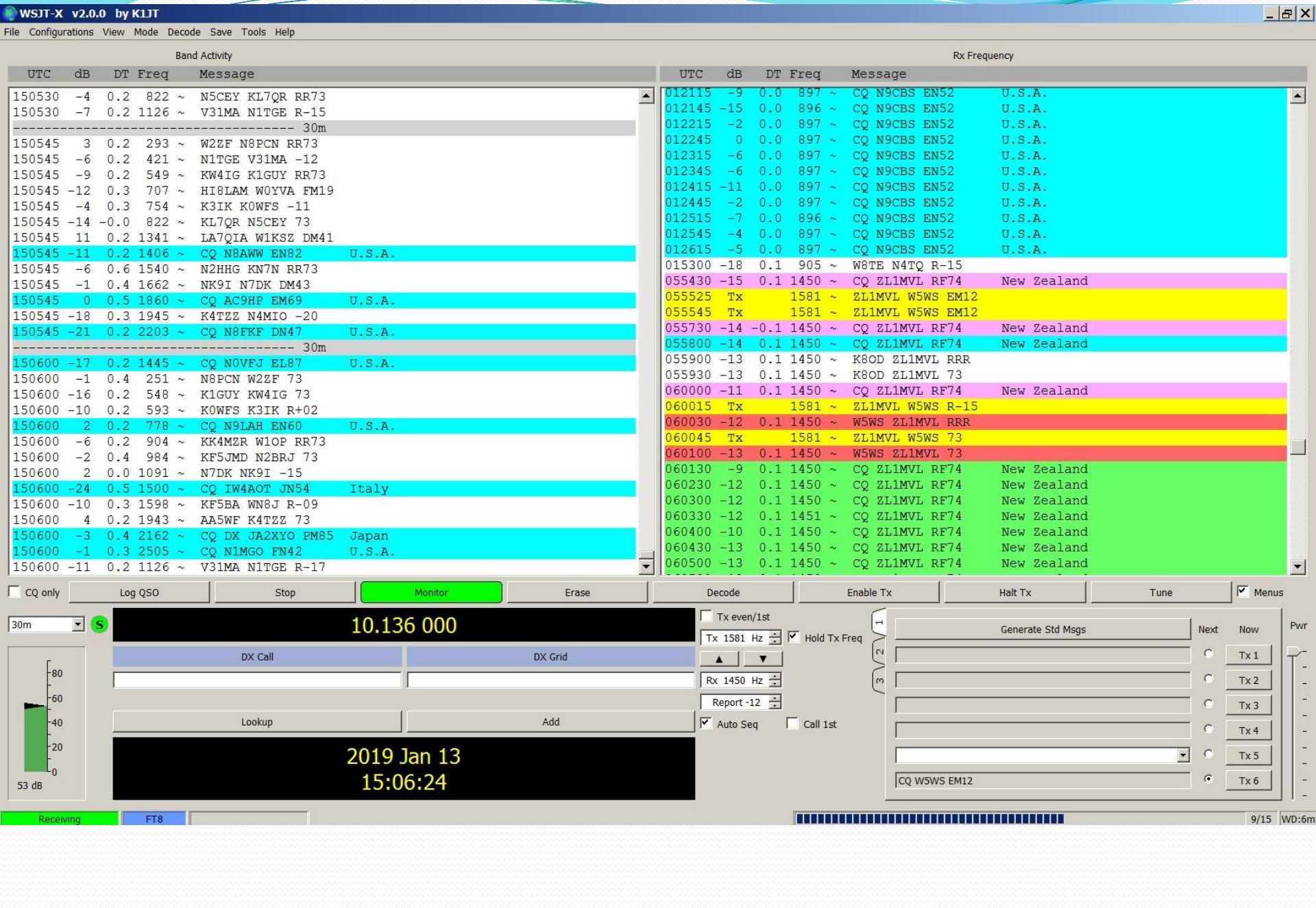
Let's Get to the Data

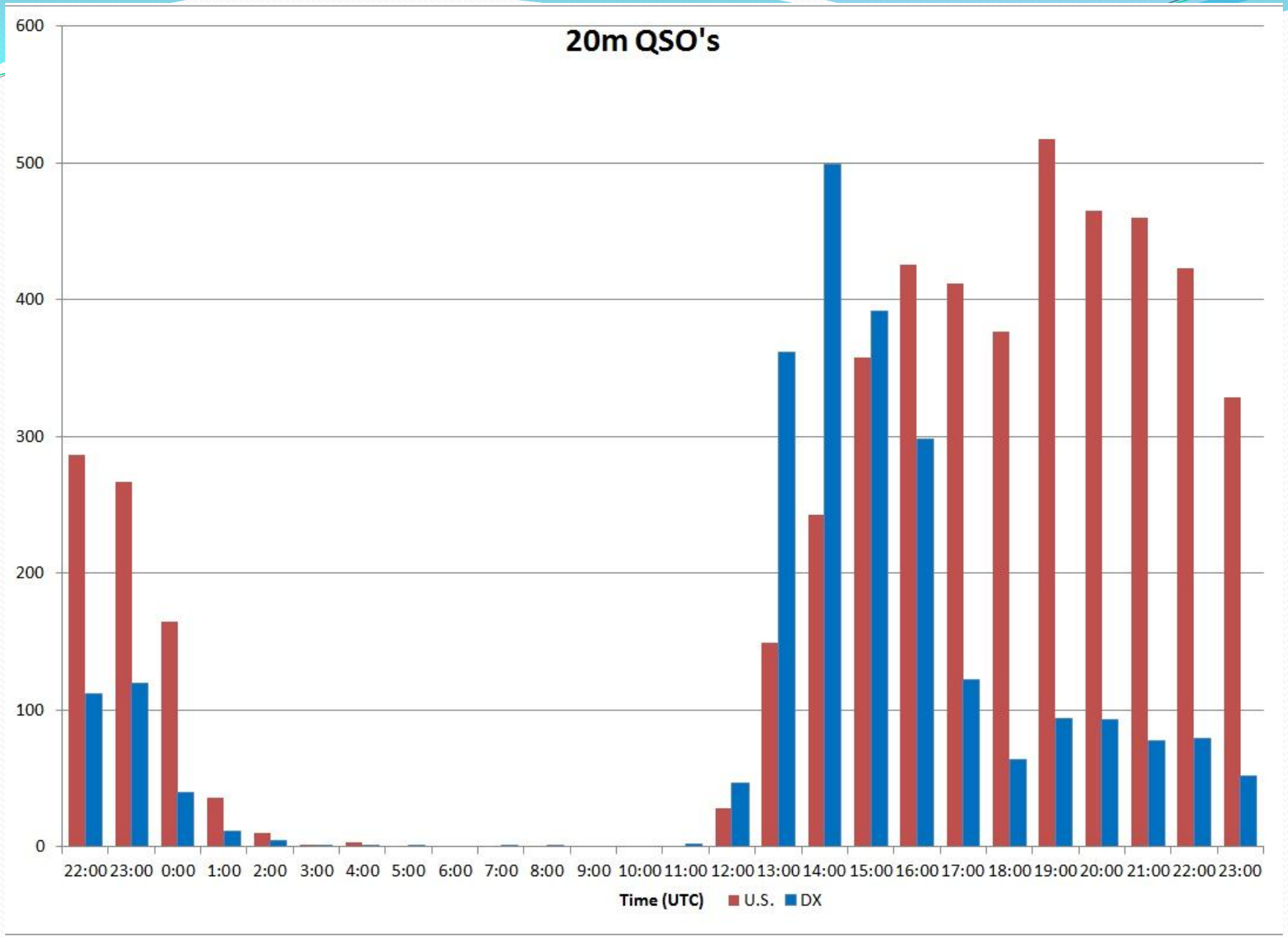
- Data collected in January, 2019
- Graphs shown are for a 24 hour period
- Sunrise 7:30 am (13:30 UTC), Sunset 5:40 pm (23:40 UTC)

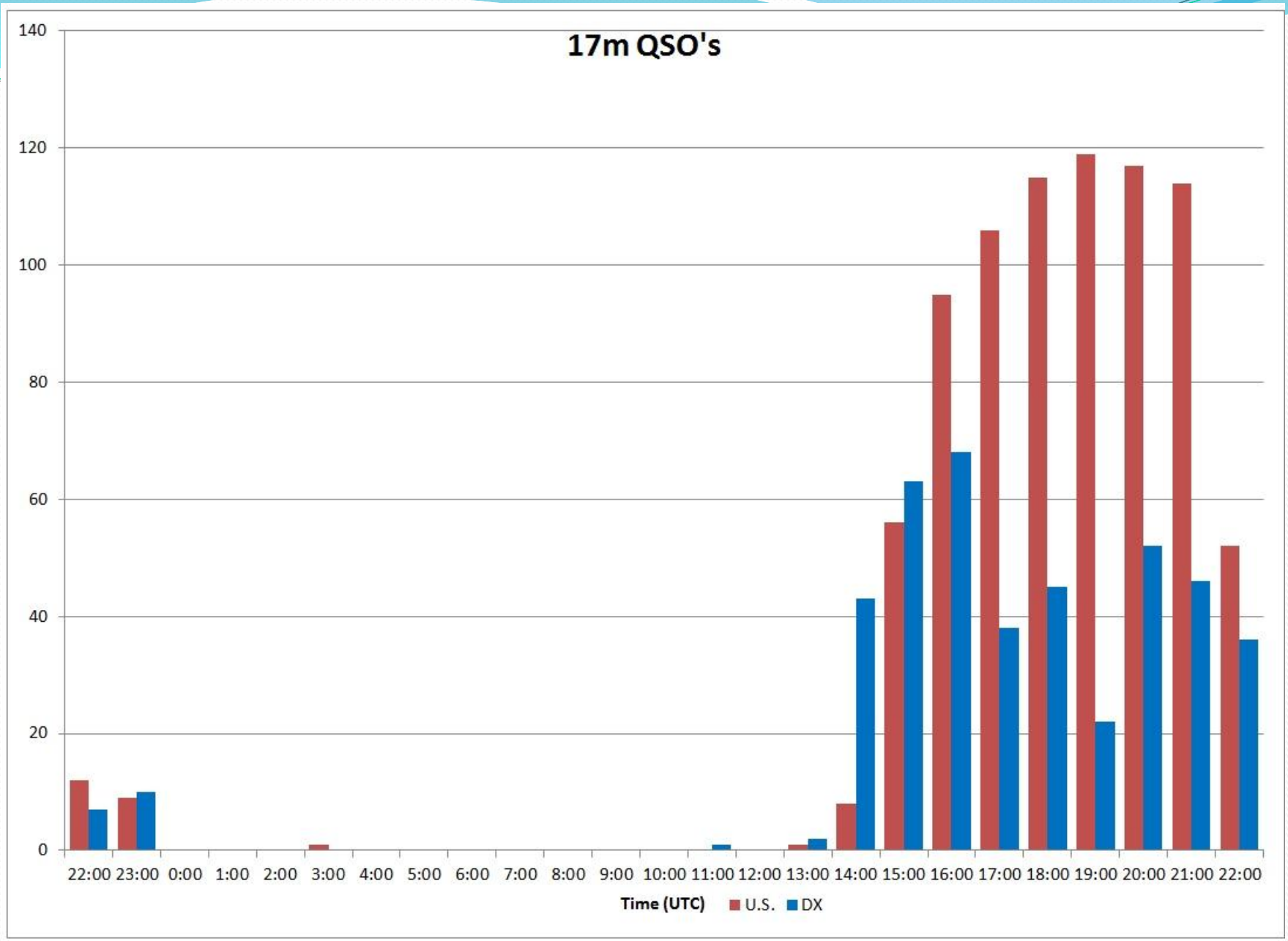

80m QSO's
500
450
400
350
300
250
200
150
100
50
0
22:00 23:00 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00
Time (UTC)
U.S.
DX

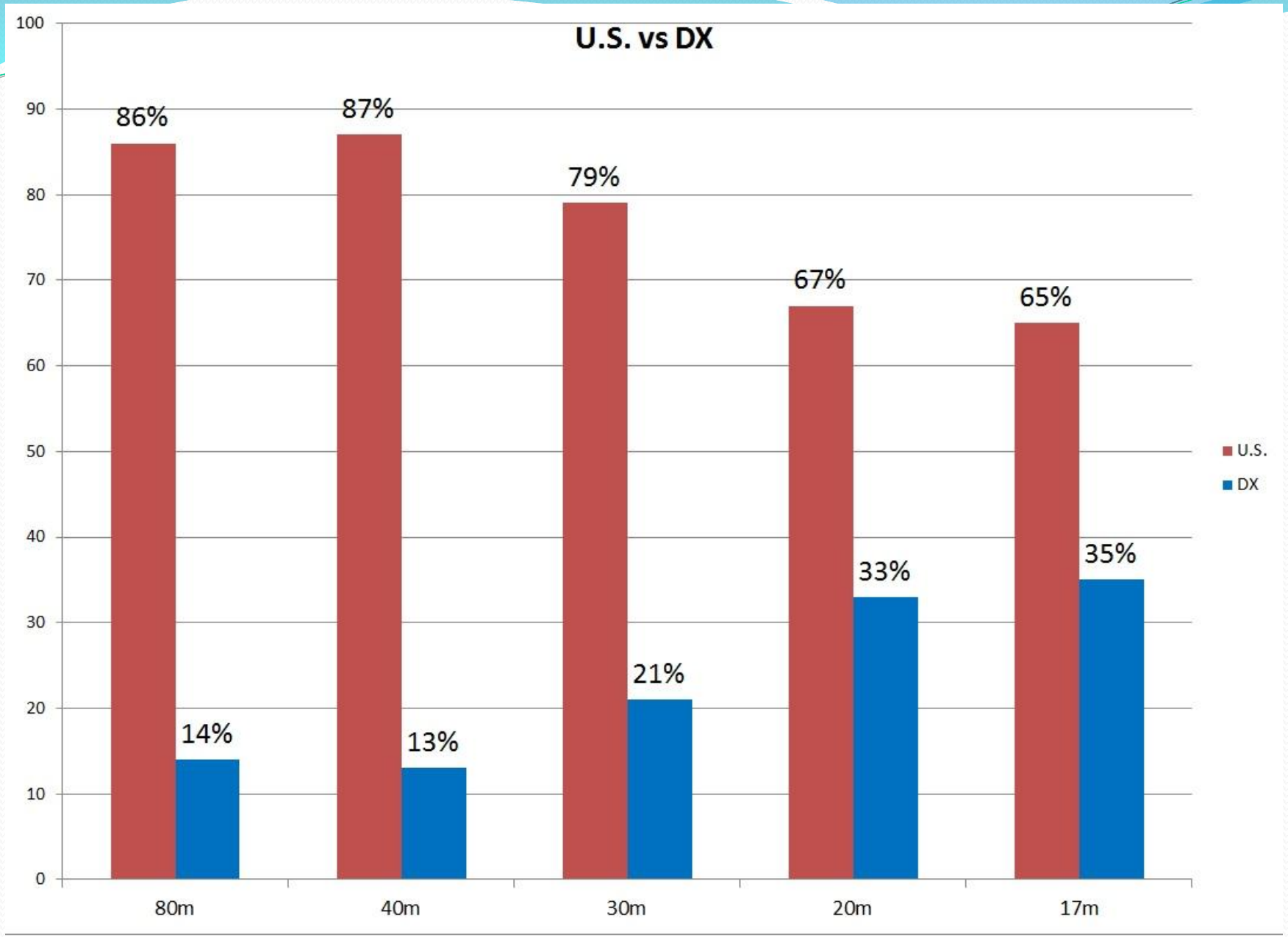

40m QSO's
600
500
400
300
200
100
0
22:00 23:00 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00
Time (UTC)
U.S.
DX


30m QSO's
600
500
400
300
200
100
0
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
1:00
2:00
3:00
Time (UTC)
U.S.
DX


WSJT-X v2.0.0 by K1JT
File Configurations View Mode Decode Save Tools Help
Band Activity
UTC dB DT Freq Message
150530 -4 0.2 822 ~ N5CEY KL7QR RR73
150530 -7 0.2 1126 ~ V31MA N1TGE R-15
---------- 30m
150545 3 0.2 293 ~ W2ZF N8PCN RR73
150545 -6 0.2 421 ~ N1TGE V31MA -12
150545 -9 0.2 549 ~ KW4IG K1GUY RR73
150545 -12 0.3 707 ~ HI8LAM W0YVA FM19
150545 -4 0.3 754 ~ K3IK K0WFS -11
150545 -14 -0.0 822 ~ KL7QR N5CEY 73
150545 11 0.2 1341 ~ LA7QIA W1KSZ DM41
150545 -11 0.2 1406 ~ CQ N8AWW EN82 U.S.A.
150545 -6 0.6 1540 ~ N2HHG KN7N RR73
150545 -1 0.4 1662 ~ NK9I N7DK DM43
150545 0 0.5 1860 ~ CQ AC9HP EM69 U.S.A.
150545 -18 0.3 1945 ~ K4TZZ N4MIO -20
150545 -21 0.2 2203 ~ CQ N8FKF DN47 U.S.A.
---------- 30m
150600 -17 0.2 1445 ~ CQ N0VFJ EL87 U.S.A.
150600 -1 0.4 251 ~ N8PCN W2ZF 73
150600 -16 0.2 548 ~ K1GUY KW4IG 73
150600 -10 0.2 593 ~ K0WFS K3IK R+02
150600 2 0.2 778 ~ CQ N9LAH EN60 U.S.A.
150600 -6 0.2 904 ~ KK4MZR W1OP RR73
150600 -2 0.4 984 ~ KF5JMD N2BRJ 73
150600 2 0.0 1091 ~ N7DK NK9I -15
150600 -24 0.5 1500 ~ CQ IW4AOT JN54 Italy
150600 -10 0.3 1598 ~ KF5BA WN8J R-09
150600 4 0.2 1943 ~ AA5WF K4TZZ 73
150600 -3 0.4 2162 ~ CQ DX JA2XYO PM85 Japan
150600 -1 0.3 2505 ~ CQ N1MGO FN42 U.S.A.
150600 -11 0.2 1126 ~ V31MA N1TGE R-17
Rx Frequency
UTC dB DT Freq Message
012115 -9 0.0 897 ~ CQ N9CBS EN52 U.S.A.
012145 -15 0.0 896 ~ CQ N9CBS EN52 U.S.A.
012215 -2 0.0 897 ~ CQ N9CBS EN52 U.S.A.
012245 0 0.0 897 ~ CQ N9CBS EN52 U.S.A.
012315 -6 0.0 897 ~ CQ N9CBS EN52 U.S.A.
012345 -6 0.0 897 ~ CQ N9CBS EN52 U.S.A.
012415 -11 0.0 897 ~ CQ N9CBS EN52 U.S.A.
012445 -2 0.0 897 ~ CQ N9CBS EN52 U.S.A.
012515 -7 0.0 896 ~ CQ N9CBS EN52 U.S.A.
012545 -4 0.0 897 ~ CQ N9CBS EN52 U.S.A.
012615 -5 0.0 897 ~ CQ N9CBS EN52 U.S.A.
015300 -18 0.1 905 ~ W8TE N4TQ R-15
055430 -15 0.1 1450 ~ CQ ZL1MVL RF74 New Zealand
055525 Tx 1581 ~ ZL1MVL W5WS EM12
055545 Tx 1581 ~ ZL1MVL W5WS EM12
055730 -14 -0.1 1450 ~ CQ ZL1MVL RF74 New Zealand
055800 -14 0.1 1450 ~ CQ ZL1MVL RF74 New Zealand
055900 -13 0.1 1450 ~ K8OD ZL1MVL RRR
055930 -13 0.1 1450 ~ K8OD ZL1MVL 73
060000 -11 0.1 1450 ~ CQ ZL1MVL RF74 New Zealand
060015 Tx 1581 ~ ZL1MVL W5WS R-15
060030 -12 0.1 1450 ~ W5WS ZL1MVL RRR
060045 Tx 1581 ~ ZL1MVL W5WS 73
060100 -13 0.1 1450 ~ W5WS ZL1MVL 73
060130 -9 0.1 1450 ~ CQ ZL1MVL RF74 New Zealand
060230 -12 0.1 1450 ~ CQ ZL1MVL RF74 New Zealand
060300 -12 0.1 1450 ~ CQ ZL1MVL RF74 New Zealand
060330 -12 0.1 1451 ~ CQ ZL1MVL RF74 New Zealand
060400 -10 0.1 1450 ~ CQ ZL1MVL RF74 New Zealand
060430 -13 0.1 1450 ~ CQ ZL1MVL RF74 New Zealand
060500 -13 0.1 1450 ~ CQ ZL1MVL RF74 New Zealand
CQ only
Log QSO
Stop
Monitor
Erase
Decode
Enable Tx
Halt Tx
Tune
Menus
30m
10.136 000
Tx even/1st
Tx 1581 Hz
Hold Tx Freq
DX Call
DX Grid
Rx 1450 Hz
Report -12
Lookup
Add
Auto Seq
Call 1st
2019 Jan 13
15:06:24
Generate Std Msgs
Next
Now
Tx 1
Tx 2
Tx 3
Tx 4
Tx 5
Tx 6
CQ W5WS EM12
Pwr
80
60
40
20
0
53 dB
Receiving
FT8
9/15
WD:6m


20m QSO's
600
500
400
300
200
100
0
22:00
23:00
0:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
Time (UTC)
U.S.
DX


17m QSO's
140
120
100
80
60
40
20
0
22:00 23:00 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00
Time (UTC)
U.S.
DX


U.S. vs DX
100
90
80
70
60
50
40
30
20
10
0
86%
14%
87%
13%
79%
21%
67%
33%
65%
35%
80m
40m
30m
20m
17m
U.S.
DX

Conclusions

Best Bands for Current Cycle

- 80m – 47 countries – rate 155/hr
- 40m – 46 countries – rate 267/hr
- 30m – 66 countries – rate 190/hr
- 20m – 83 countries – rate 297/hr
- 17m – 46 countries – rate 50/hr

Questions? Comments?