



# How to Capture the MAGIC of 6 meters

*Jim Wilson, K5ND*

# What's the Agenda?

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- The Magic and Tragic Band
- Propagation Modes
- Equipment
- Antennas
- Software
- Online Assistance
- Awards
- Contesting

# Capture the **MAGIC** of **Six Meters**



# Jim Wilson

## K5ND

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- Writer — Heathkit, 73, QST, NCJ, CQ
- Blogger — [www.k5nd.net](http://www.k5nd.net)
- Freelance Writer
- Scouter — National and World Levels
- VHF Contester & Grid Chaser
- Six Meter Addict





# My Results on 6 Meters

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- Location = Dallas / Fort Worth
- 6 Meter Rig = 100 watts
- Attic Dipole = LU4FPZ (CW), CX5BL
- Vertical = GM3POI & EA8DBM (FT8)
- Moxon = ZL1RS (CW), JA1UAV (JT65)
- 3-el Yagi = NH6Y and E51WL (FT8)
- 5-el Yagi = 5T5PA + several EU (FT8)
- 600+ Grids
- 60+ DXCC



# What is 6 Meters?

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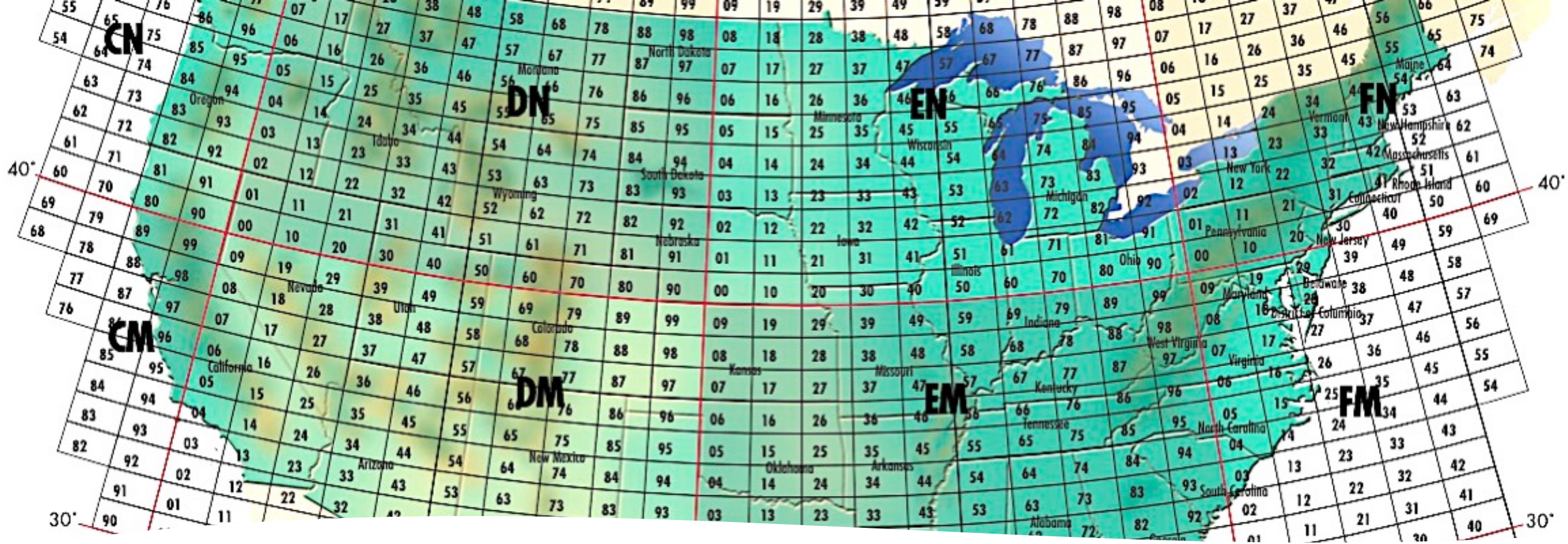
- Transition from HF to VHF
- High Sunspot F Layer
- Seasonal Sporadic E
- Anytime Meteor Scatter
- Moon Bounce / EME
- Aurora
- Trans-Equatorial
- FM and Repeaters



# 6 Meter Frequencies

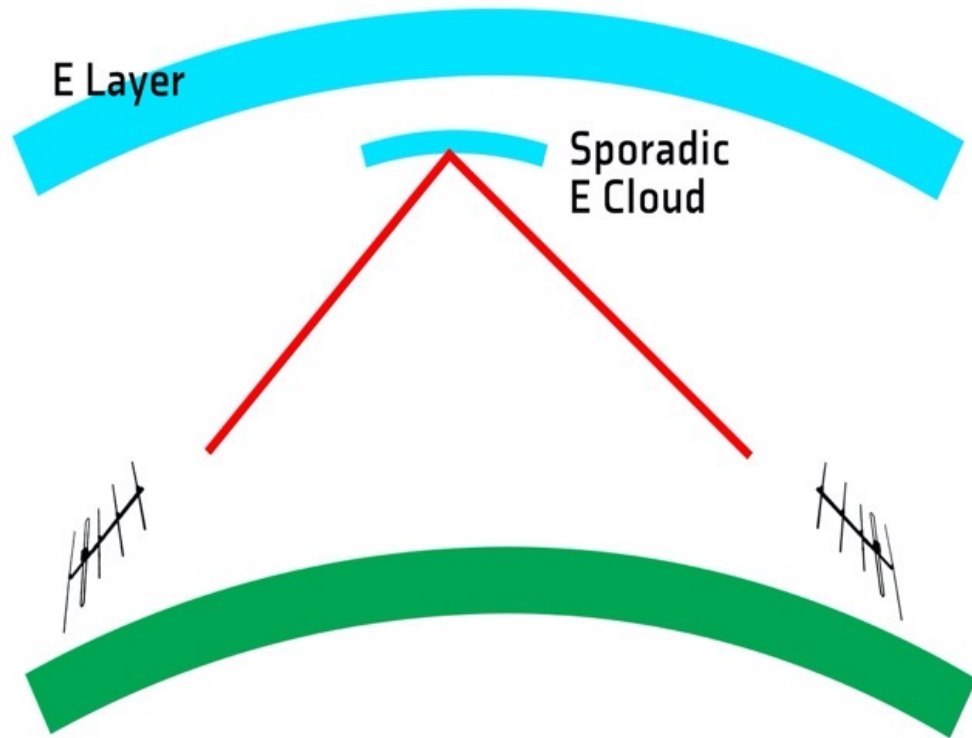
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- 50.125 SSB Calling
- 50.100 to 50.125 DX Window
- 50.080 to .100 for CW
- 50.080 and down Beacons
- 50.260 for MSK144
- 50.313 for FT8
- 50.323 for FT8 to Europe
- 50.318 for FT4
- 50.275 for Q65-30A



# Grids

- 1 degree latitude x 2 degrees longitude
- Roughly 70 miles x 100 miles in USA
- Grid Fields i.e. EM
- Grid Squares i.e. 12

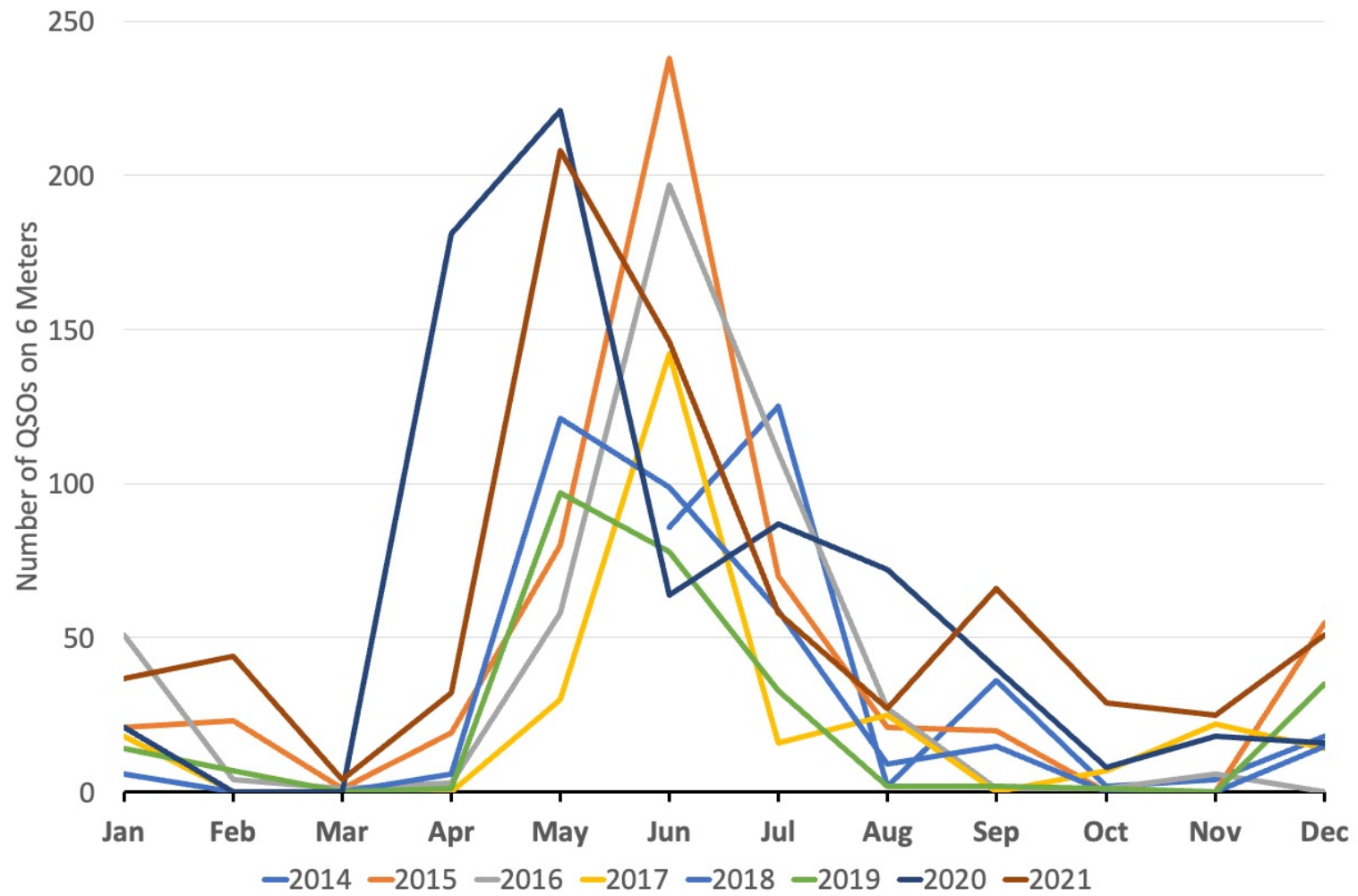


# Sporadic E

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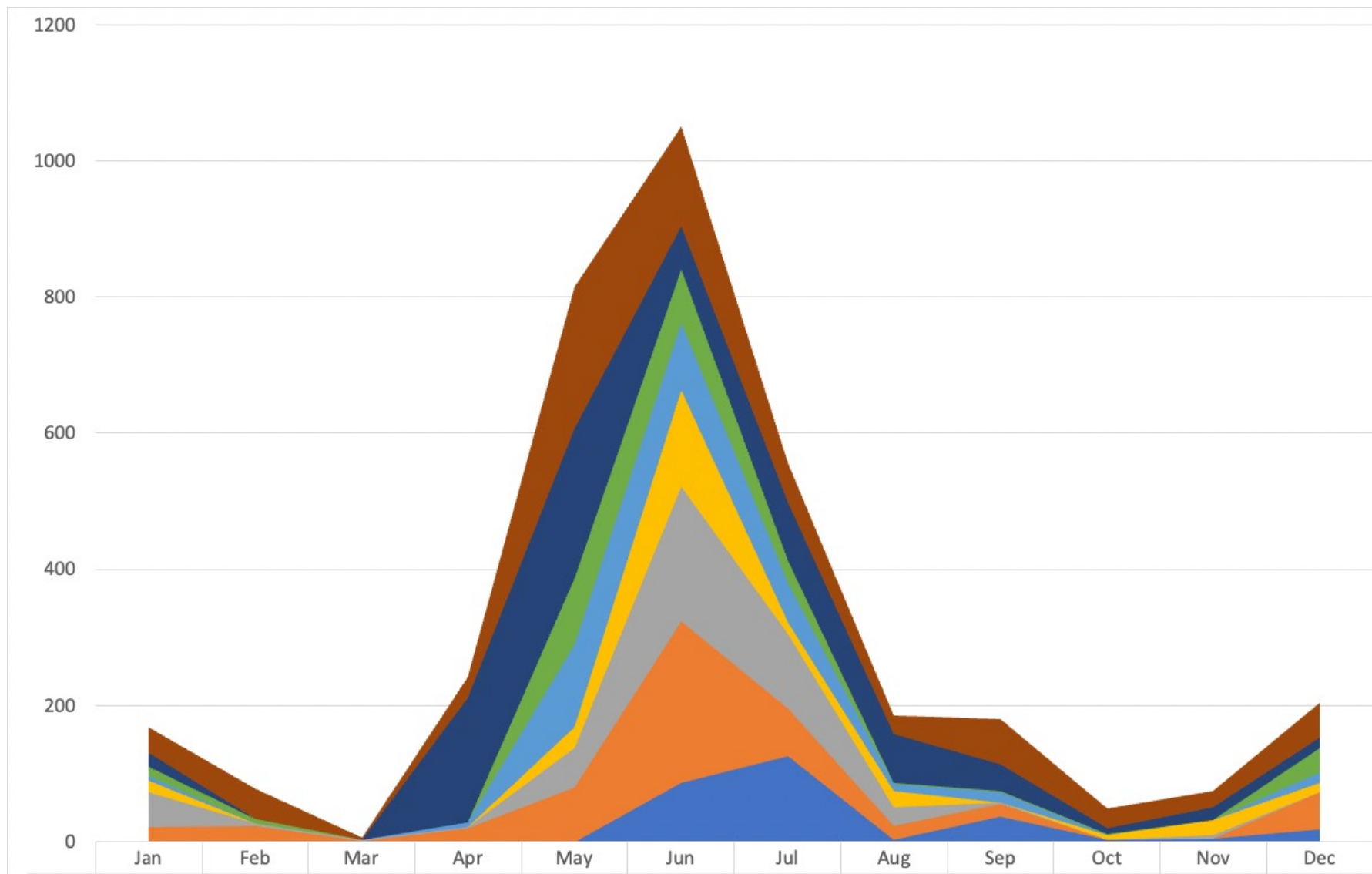
- Primarily in the Summer
- Cause? Many theories
- Can't be predicted
- Es Cloud location determines the path
- 1<sup>st</sup> bounce max ~ 1,500 miles
- Multiple bounces possible





# Sporadic E

- Seasonal Activity
- K5ND QSOs by Month
- Past 8 Years

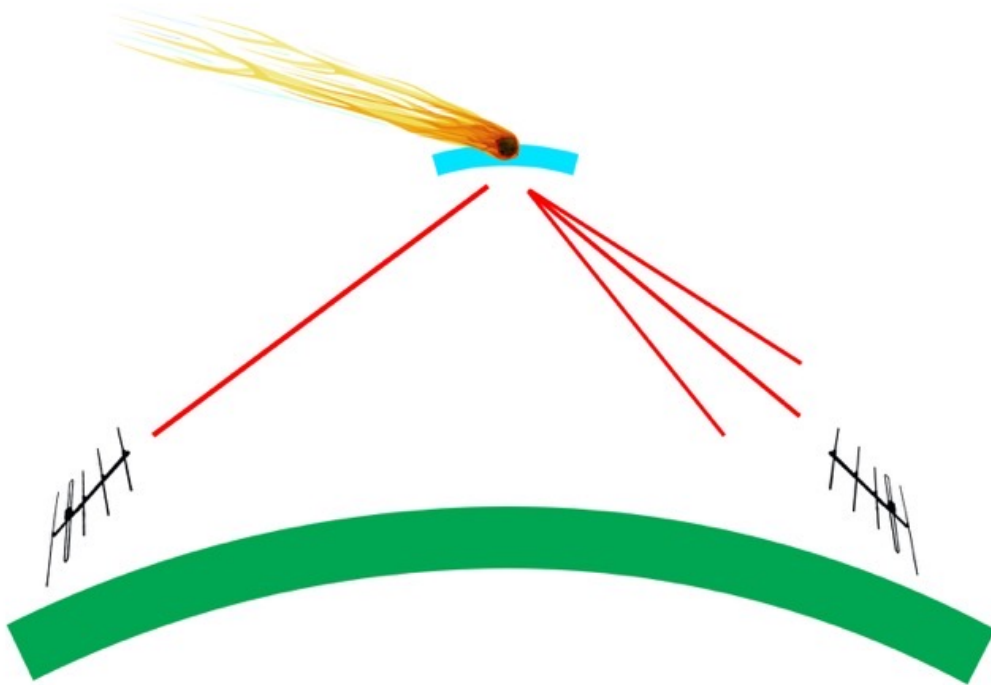


# Sporadic E

- K5ND QSOs by Month, Cumulative over 8 years

# Meteor Scatter

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- Meteor Scatter
- Can Happen Anytime, morning best
- Meteor Trails
- Max distance ~ 1,500 miles
- Ionospheric Scatter

# Other Modes

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- Moon Bounce / EME
- Aurora
- Trans-Equatorial – TEP
- F2 Layer Propagation

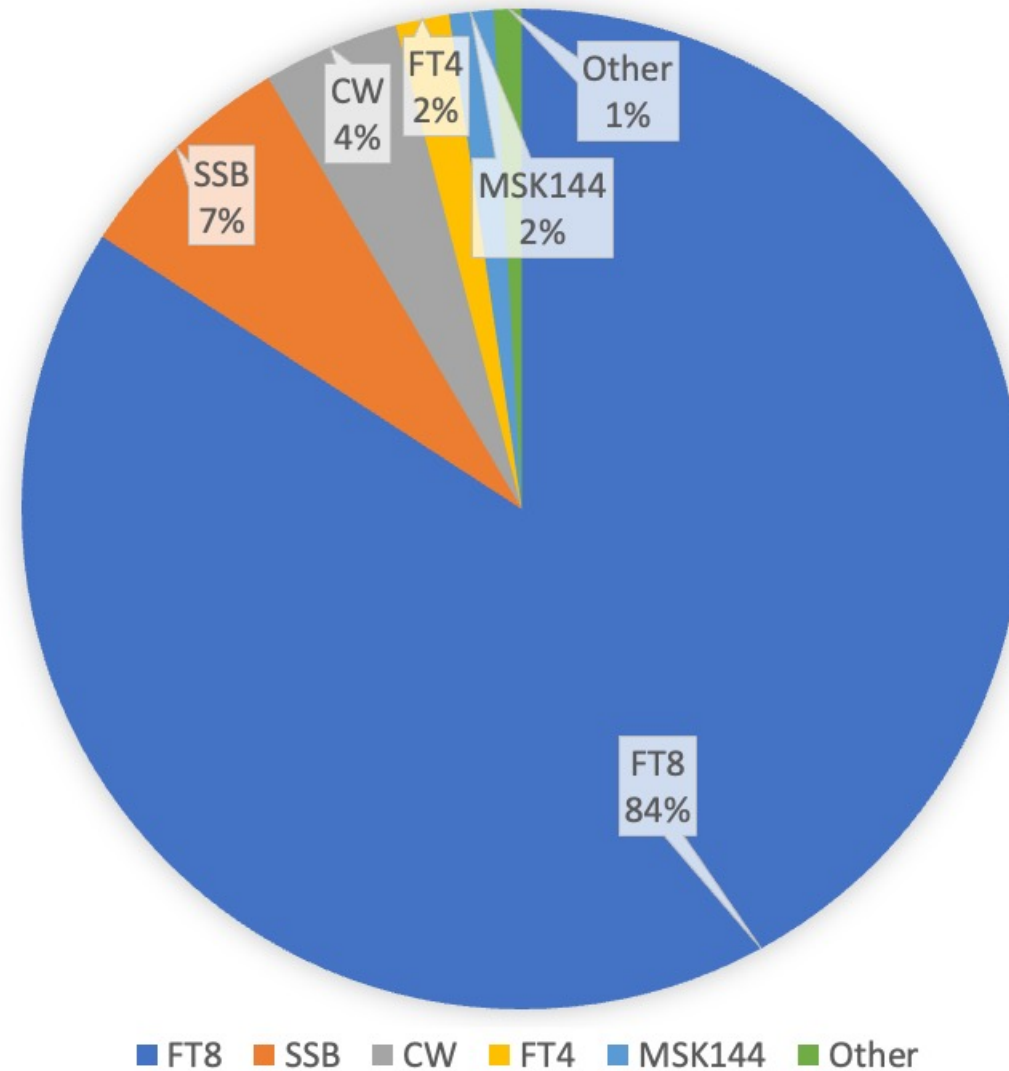


# Operating Practices

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- Data from Club Log
- Covers All DXCC Entities
- FT8 made up 84% of all contacts logged on 6 meters

QSOs on Club Log March 2020 to March 2021



# Equipment

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- HF + 6 Meter Rig is Perfect
- 100 watts is fine
- Preamp can help but not critical
- Coax cable — LMR400 / RG8
- Shorter the run the better
- Try what you have
- Get on the Air



# Antennas

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- Dipole can work fine
- Vertical can also work
- Moxon is an excellent antenna
- Yagis work great
- Small size with good gain directivity
- 30 feet high is superb



# 6 m Moxon





# 6 m Omniangle



# 6 m 3-element Yagi



# 6 m 5-element Yagi



# WSJT-X

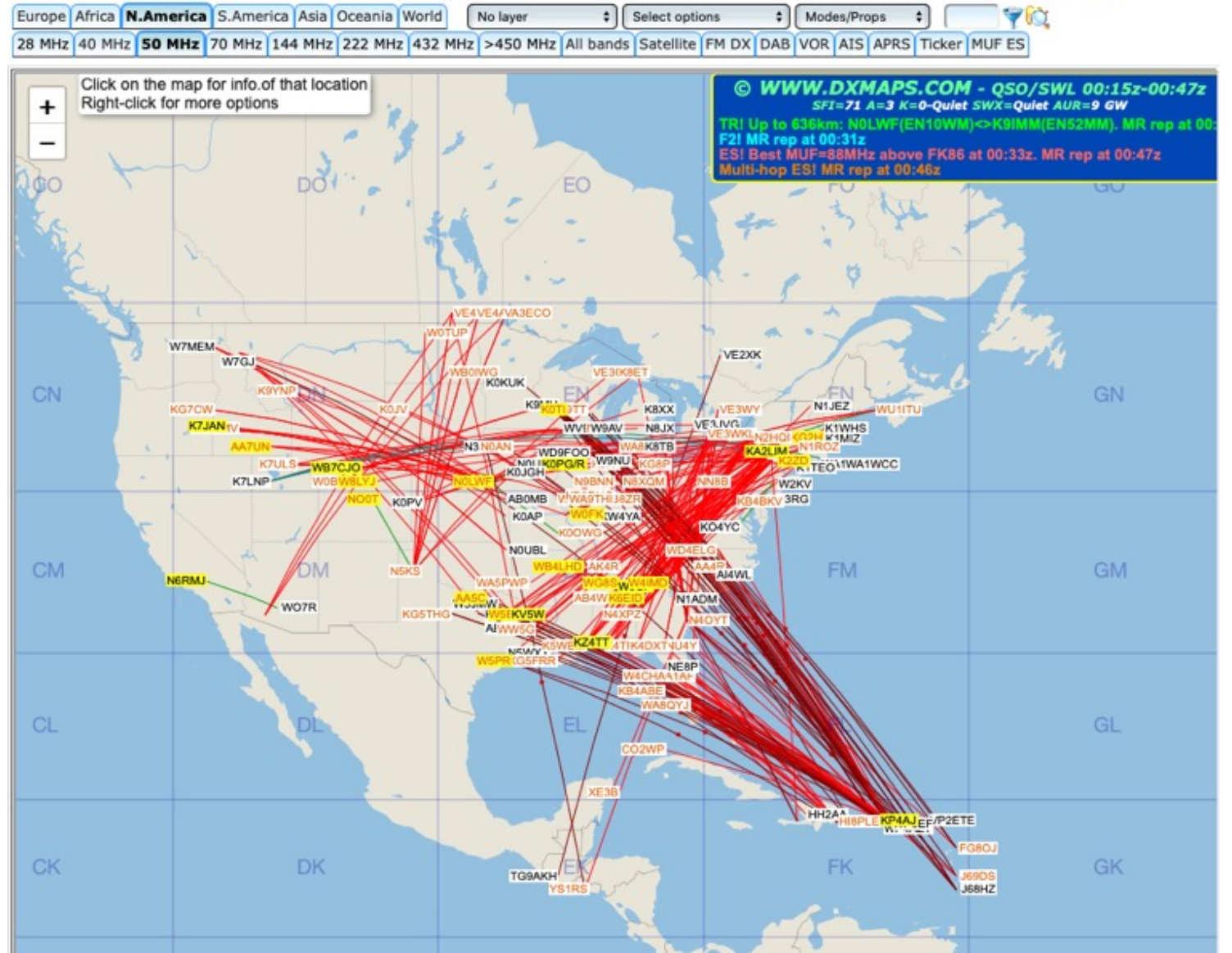
- FT8 and FT4
- MSK144
- Q65
- NA Contest Mode
- Use your favorite logging program
- Look for QSO transfer from WSJT

The screenshot displays the WSJT-X software interface, version v2.2.0-rc2, developed by K1JT, G4WJS, and K9AN. The main window is divided into two panes for 'Band Activity' and 'Rx Frequency'. Both panes show a list of received signals with columns for UTC, dB, DT, Freq, and Message. The 'Band Activity' pane shows signals between 140130 and 140230 UTC, with messages like 'WB5TUF IZ5DKJ RR73' and 'K5ND EI4DQ -11'. The 'Rx Frequency' pane shows signals between 135745 and 140245 Hz, with messages like 'EA5IOG K5ND R-17' and 'CQ NA G8FBO'. Below the panes, there are control buttons for 'CQ only', 'Log QSO', 'Stop', 'Monitor', 'Erase', 'Decode', 'Enable Tx', 'Halt Tx', and 'Tune'. A central display shows the current frequency '50.323 000' and a digital readout for '2020 May 31 14:02:56'. On the right, there is a 'Generate Std Msgs' section with a list of message templates and a 'Pwr' control. At the bottom, a status bar shows 'Tx: EI4DQ K5ND 73', 'FT8', 'Last Tx: EI4DQ K5ND R-11', and '8'.

# Assistance

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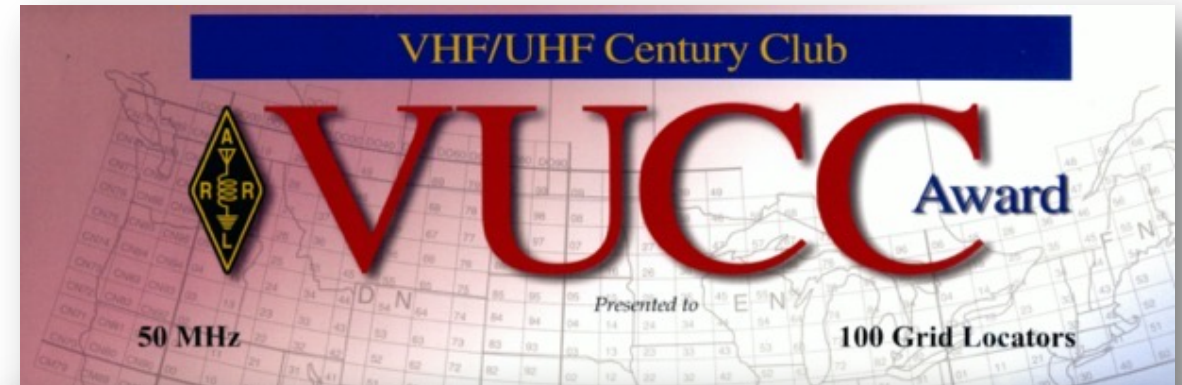
- DX Maps
- PSK Reporter
- Spotting Networks
- Slack VHF-Chat
- Ping Jockey



# Awards

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- VUCC — 100 grids confirmed
- Worked All States
- DXCC
- FFMA — 488 Grids USA
- Central States VHF Society
- UK Six Metre Group



# Contests

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- High Activity Levels
- Great for chasing new grids, states
- ARRL January, June, September VHF
- CQ WW VHF in July
- VHF Sprints – Spring and Fall



# Rovers

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- During Contests
- Rare Grid Activations





# More Information — [www.k5nd.net](http://www.k5nd.net)

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- Guide to 6 Meter DXing <https://www.k5nd.net/2020/11/guide-to-6-meter-dxing-getting-started-on-the-magic-band/>
- 6 Meter Antennas <https://www.k5nd.net/2020/06/six-meter-antennas-ive-tried-a-few/>
- eBook by K5ND <https://www.k5nd.net/2020/08/capture-the-magic-of-six-meters-ebook/>
- FFMA — The Ultimate Grid Chase <https://www.k5nd.net/2021/08/fred-fish-memorial-award-ffma/>

# Capture the **MAGIC** of **Six Meters**



Questions  
&  
Answers

