



The Solar Eclipse QSO Party: Ionospheric Sounding Using Ham Radio QSOs

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We love to operate!



Your Logbook QSOs

The American Radio R...e, Incorporated [US] https://lotw.arrl.org/lotwuser/qso?qso_que...

Today is Tue, 16 May 2017 UTC
You are W2NAF
You have 4,244 QSO records
You have 1,987 QSL records
Log Off

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QSO Query

New Query

25 Records Shown (1-25)
Sorted by QSO Date (0.000774 seconds elapsed)

Call sign	Worked	Date/Time	Band	Mode	Freq	QSL
Details W2NAF KC2LRC		2016-10-15 02:41:56	80M	PSK31	3.58200	UNITED STATES OF AMERICA
Details W2NAF N7WE		2016-10-15 02:29:57	40M	PSK31	7.06957	UNITED STATES OF AMERICA
Details W2NAF CO2QU		2016-10-15 02:26:42	40M	PSK31	7.06957	CUBA
Details W2NAF K6SP		2016-10-15 02:14:49	40M	PSK31	7.07000	UNITED STATES OF AMERICA
Details W2NAF PV8ADJ		2016-10-15 02:06:19	40M	CW	7.02214	BRAZIL
Details W2NAF WA4SCL		2016-10-12 02:36:31	40M	CW	7.03800	
Details W2NAF WA1SKQ		2016-10-09 12:24:06	40M	CW	7.03300	UNITED STATES OF AMERICA
Details W2NAF HA9RT		2016-10-08 23:47:27	40M	CW	7.00929	
Details W2NAF KA5VVD		2016-10-08 12:10:53	20M	PSK31	14.07000	
Details W2NAF N5GFH		2016-10-08 11:58:35	20M	PSK31	14.07000	

Go to: www.p for more

Reverse Beacon Network

main page - Reverse Beacon Network

www.reversebeacon.net/main.php

REVERSE BEACON NETWORK SSN:136 SFI:146 A:7 K:2 callsign lookup: [input field]

welcome main dx spots skimmers downloads about contact us

options: show/hide

news
RBN blog: stay tuned!
we have 106 skimmers online

skimmers online:
AA4VV - 20m,30m,40m,17m,15m
AC0C - 10m,20m,30m,17m,15m
BG8FFE - 20m,15m
DB0MMO -
DF4UE - 10m,20m,40m,17m,12m,15m
DF7GB - 10m,20m,40m,17m,12m,15m
DJ9IE -
DK8NE - 20m,30m,40m,17m,15m
DK9IP -
DL0LBS -
DL1EMY - 20m,40m,17m,15m
DL2CC - 20m,30m,40m,17m,15m
DL3KR - 40m
DL8LAS - 20m,40m,15m
DL9GTB -
DO4DXA - 15m
DR1A - 20m,30m,40m,17m,15m
EA4TX - 20m,15m
EI6IZ - 20m,30m,80m,40m,17m,15m
F4EGZ - 20m
F4KJI -
FSMUX - 20m,30m,40m,17m,12m,15m

Map Satellite

Google

world wide / zoom to US / zoom to Europe / zoom to North Atlantic

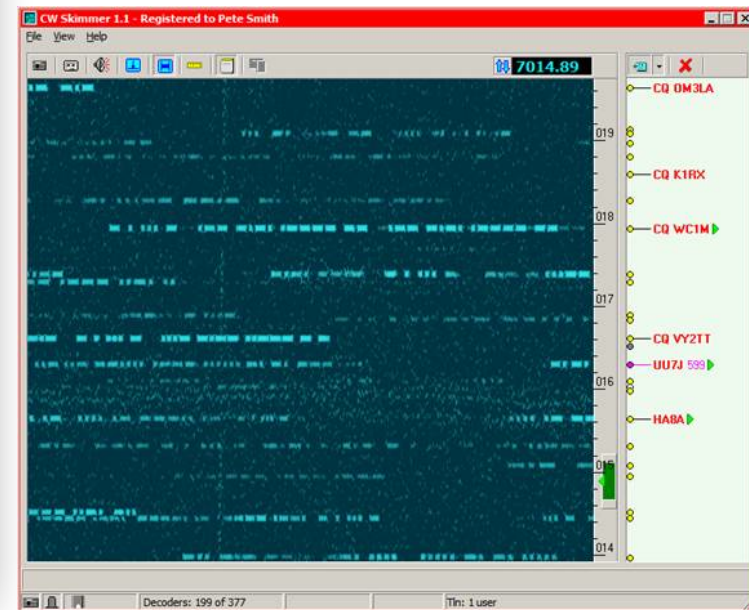
show/hide my last filters

no filter selected, showing all spots
search spot by callsign

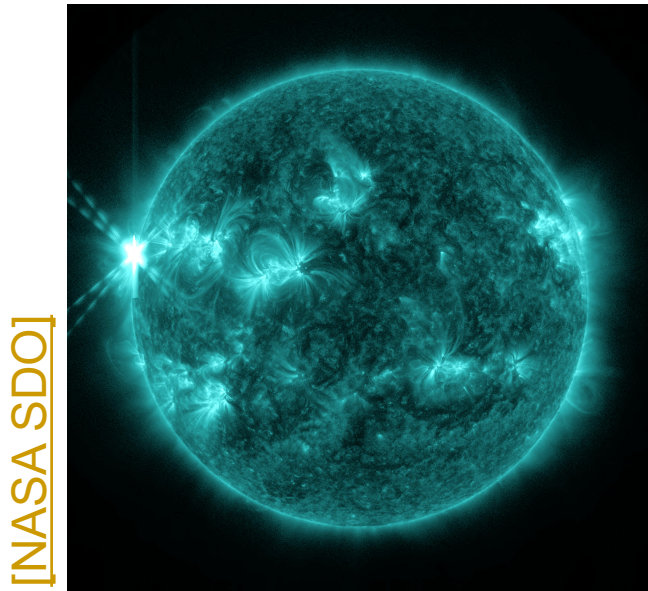
rows to show: 15

de	dx	freq	cq/dx	snr	speed	time
JE1SGH	UN7AB	21040.0	CW CQ	12 dB	27 wpm	1334z 05 Sep
BG8FFE	RM6F	14043.3	CW CQ [LoTW]	14 dB	26 wpm	1334z 05 Sep
R6YY	IW2ODG	21000.0	CW CQ	3 dB	15 wpm	1334z 05 Sep
ZL2RV	OP14S	14026.0	CW CQ	9 dB	22 wpm	1334z 05 Sep
JE1SGH	PA1FP	21016.2	CW CQ	7 dB	25 wpm	1334z 05 Sep
KM3T	LZ3LD	18085.3	CW CQ	6 dB	19 wpm	1334z 05 Sep
F5MUX	OZ/DK2VQ/M	14016.6	CW CQ	26 dB	33 wpm	1334z 05 Sep
W8WWV	6Y5WJ	28028.8	CW CQ	11 dB	29 wpm	1334z 05 Sep
KQ8M	6Y5WJ	28028.3	CW CQ	4 dB	29 wpm	1334z 05 Sep

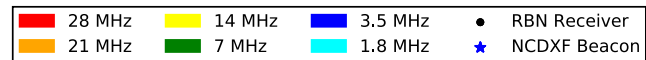
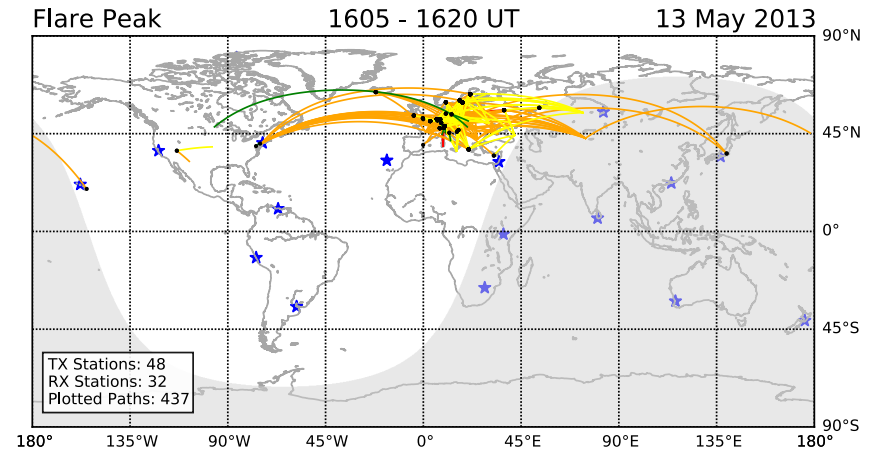
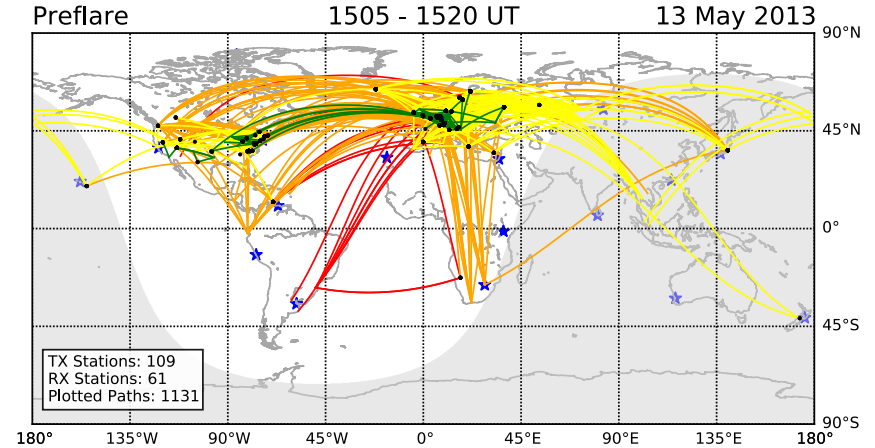
- Volunteer Network
- ~130 Nodes
- Data back to 2009



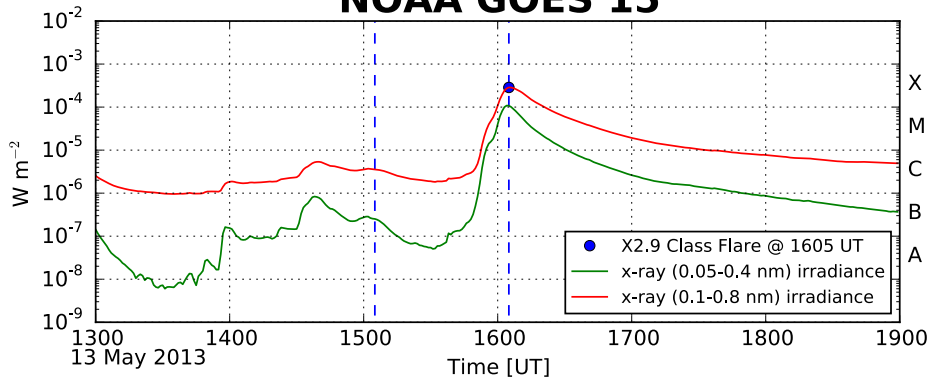
RBN & a Solar Flare



Reverse Beacon Network Solar Flare HF Communication Paths



NOAA GOES 15



[Frissell et al., 2014, Space Weather]

Big Data – Other Ham Networks

Network	Start Year	# Spots	DB Size
WSPRNet	2008	535,000,000	44 GB
RBN	2009	578,000,000	36 GB
PSKReporter	2013	1,000,000,000	100 GB

- There is A LOT of data.
- This is not a “traditional” experiment.
- We are currently looking at ways to improve existing techniques and develop ones.

Solar Eclipse Ionospheric Effects?

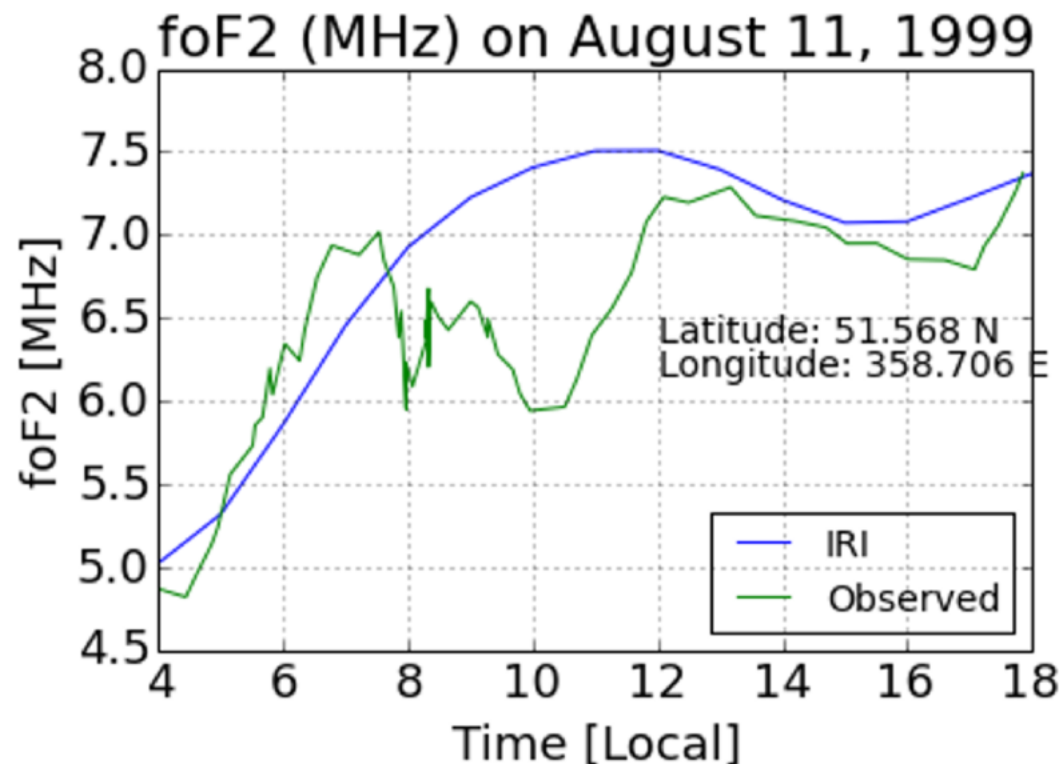
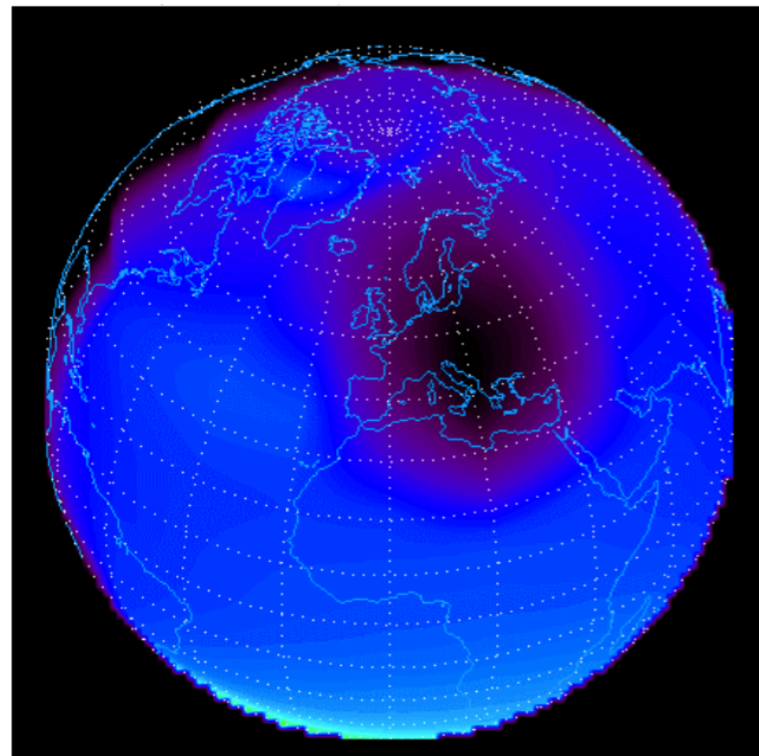


Figure: M. Moses after
Afraimovich et al., 2002



Model Electron Density at ~280
km alt. during 1999 Eclipse
M. Harris from *Bamford 2000*.

SEQP Objectives

**Let's flood the HF
airways with signals!!!**

By generating lots of QSOs, we
should be able to “image”
ionospheric changes.

Solar Eclipse QSO Party (SEQP)

- August 21, 2017 from 1400 – 2200 UT

- **Contest-like**

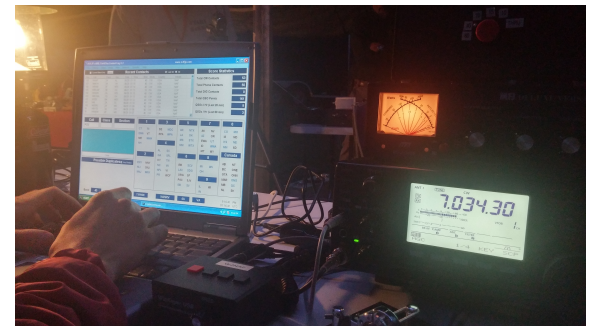
- 2 Points CW or Digital
- 1 Point for Phone
- Multiply Score by # of Grids

- **Exchange**

- Real RST + 6 Character Grid Square

- **Data sources**

- Reverse Beacon Network
- PSKReporter
- WSPRNet
- Participant-submitted logs



<http://hamsci.org/seqp>

Bonus Points

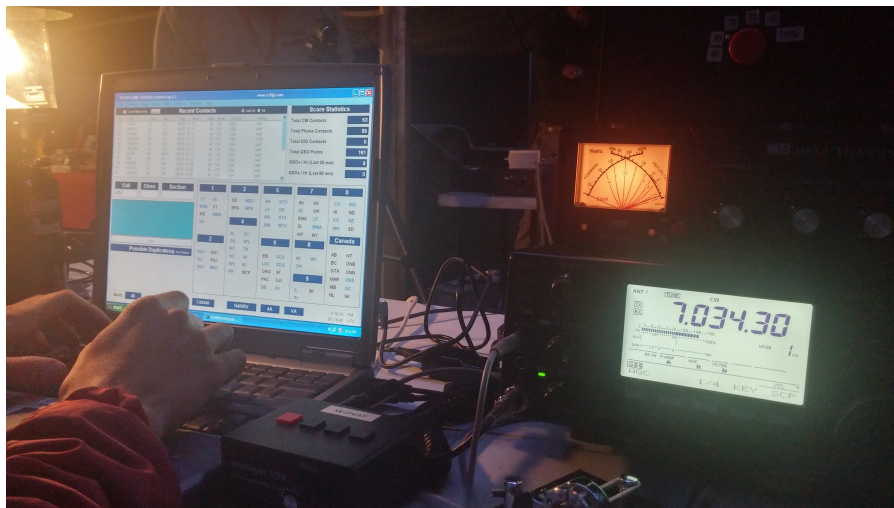
- **Operate during totality** – 100 pts
- **Operate outdoors** (so you can see the eclipse) –100 pts
- **Operate at a public venue** –100 pts
- **Provide detailed station operation info** – 50 pts each:
 - Antenna design characteristics
 - HFTA terrain profile.
 - Estimated Ground conductivity
 - Station Effective Radiated Power relative to a Dipole (ERP) on each band.
- **Operate a wideband RBN, PSKReporter, or WSPRNet node during the contest** – Varying Pt Values
- **Bonus points for being spotted by RBN, PSKReporter, and Spotting Network.**

Logging & Certificates

- We expect an N1MM+ module to be available for the SEQP.
- Any logging software that supports the ARRL VHF contest exchange format can also be used.
- Follow instructions at hamsci.org/seqp for uploading logs.
- Downloadable participation certificate will be available.
- Final scores (with bonuses) will be posted on hamsci.org.

Closure

- The data from these efforts will help both science and ham radio.
- I hope everyone will have a chance to participate the in Solar Eclipse and the SEQP.
- The SEQP is just one way to help out! Stop by the HamSCI booth or visit hamsci.org/eclipse to learn more.
- **We have a great opportunity to enjoy our ham radio hobby, experience the beauty of nature, and contribute to science!**



Thank you!
