



HAM RADIO OPERATOR
ON THE AIR

Mora Hill in Rancho San Antonio Open Space
June 24 - 26



RANCHO SAN ANTONIO OPEN SPACE PRESERVE



- Open dawn to half hour after sunset
- Speed limit **15 MPH** When passing others **5 MPH**
- Bicyclists: Helmets are required
- Bicycles and horses must stay on designated trails
- Leave plants and animals undisturbed



CAUTION



TICKS

Ticks in this area may carry Lyme disease. Avoid contact with vegetation, stay on trails.



POISON OAK

Poison oak grows in many areas. Please learn to identify and avoid it during all seasons.



RATTLESNAKES

Rattlesnakes are native to these facilities, and are especially active in warm weather.



Midpeninsula Regional Open Space District

(650) 691-1200 | www.openspace.org

Regulations Strictly Enforced (Ord. 85.1)

MOUNTAIN LION HABITAT



Mountain lions are a natural part of this region's environment. Lions typically live alone and hunt between dusk and dawn.

Adult lions are generally wary of people and try to avoid contact. In the rare case of an encounter with a mountain lion, use caution.

IF YOU ENCOUNTER A MOUNTAIN LION:



FACE LION BACK AWAY SLOWLY



BE LARGE, SHOUT

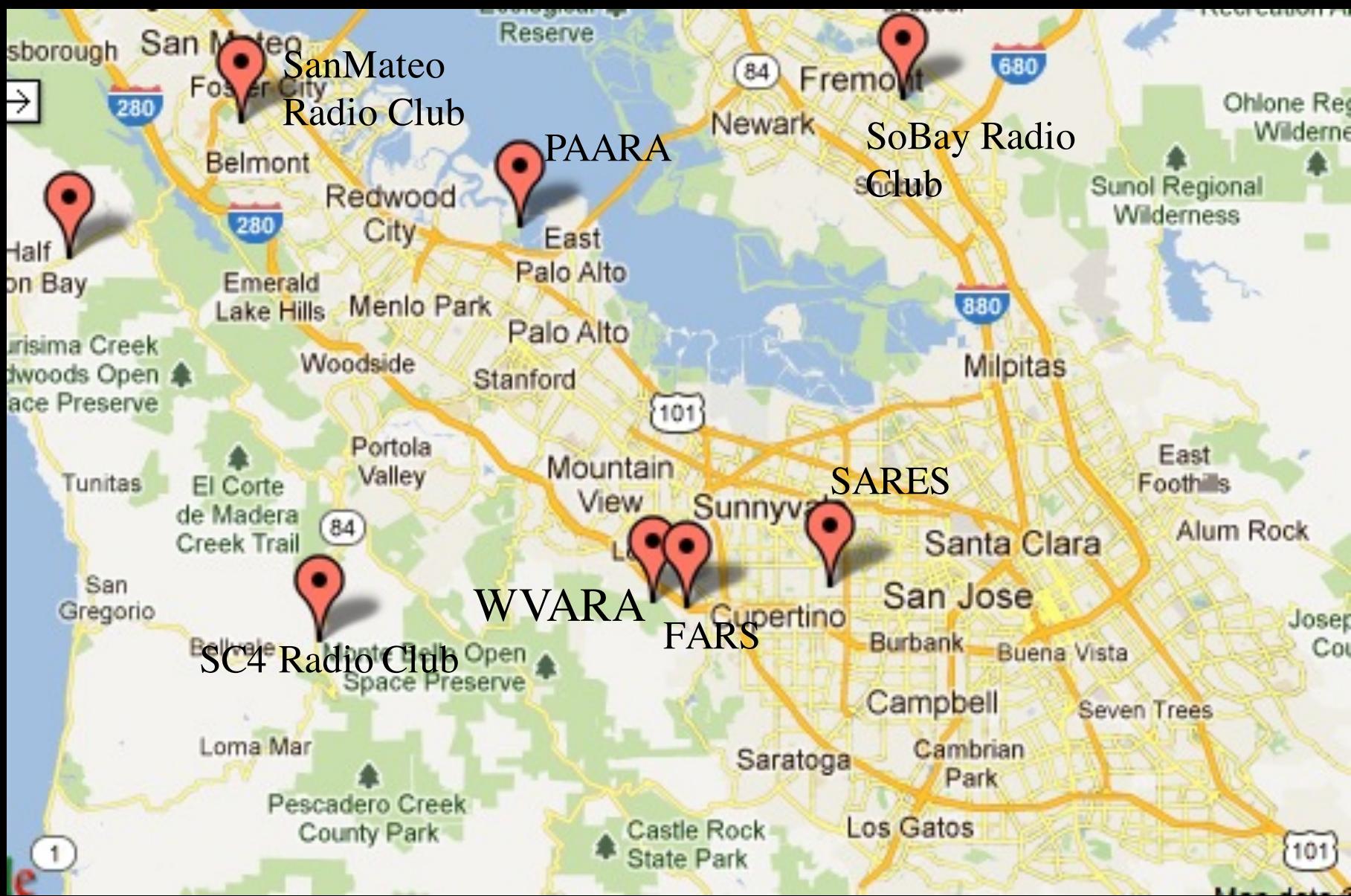


IF ATTACKED,
FIGHT BACK.

KEEP CHILDREN CLOSE.

PICK UP CHERISHED BELONGINGS

ARRL Field Day Locator Map





Prepping Svend's 20/40-CW tower







SSB Antennas





15CW: 4-el monobander



VHF/UHF/Satellite Antenna Farm



VHF Tent





2014 & 2015 FD Observations

- Digital rocked on 15m
- 40m NVIS Dipole was useful for daytime West Coast contacts
- The most crowded band often wasn't the best choice
- 6, 10 and 15 meters openings: be listening!
- Graveyard action on 20/40/80m is fun

Recent FIELD DAY Results

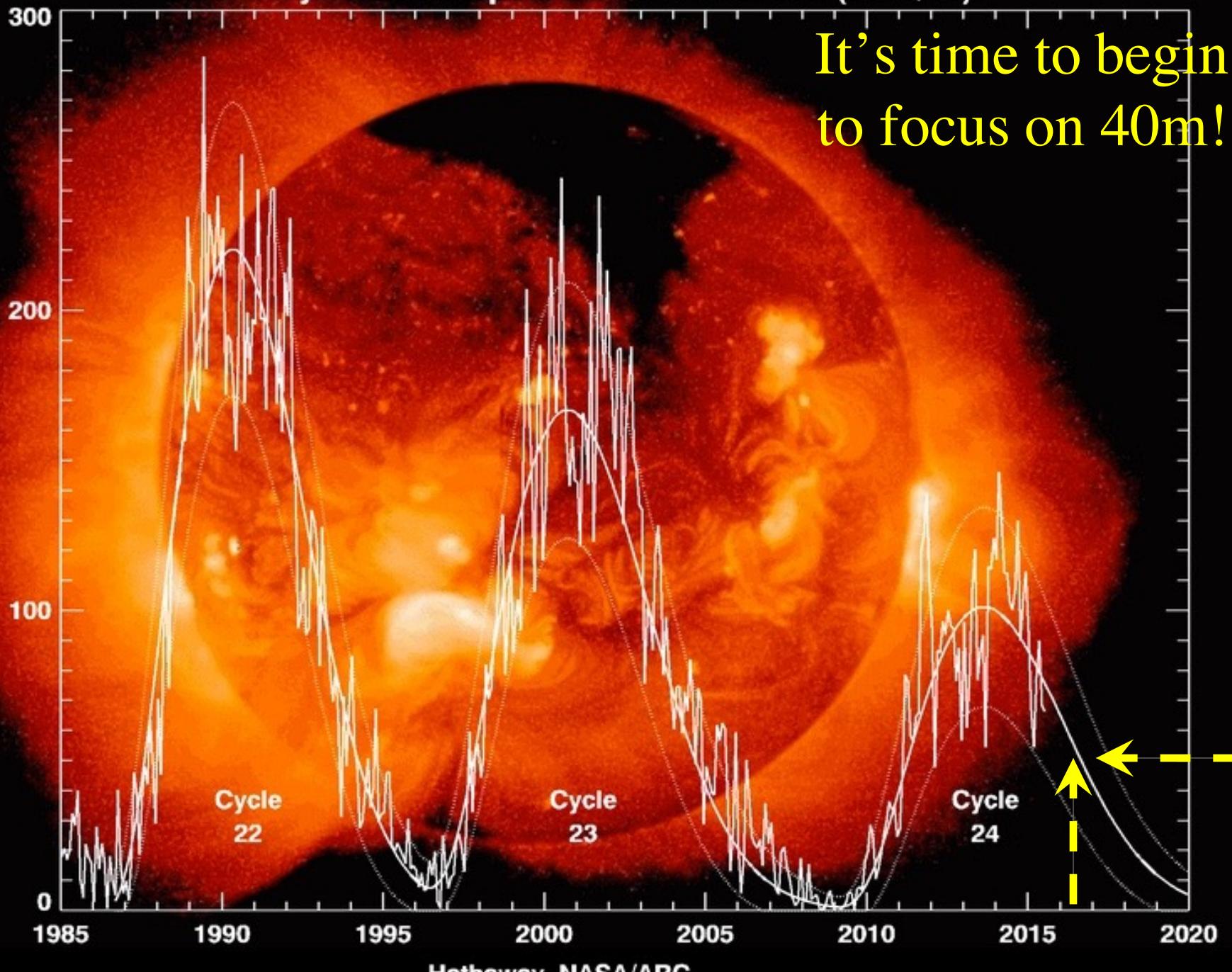
- 2009: #12 out of 2600 participating clubs
- 2010: #7
- 2011: #3
- 2012: #3 again
- 2013: #4
- 2014: #3 yet again
- **2015: #2 !!!**

Top Field Day Scores in 2015

#	Call	Score	Category	QSOs	Power Mult	GOTA Call	Section	Participants	Club
1	W3AO	31,452	18A	9,700	2	KE3Q	MDC	91	Potomac Valley RC & Columbia ARA
2	K6EI	21,400	11AB	2,287	5	W6ZZZ	SCV	22	West Valley ARA
3	W4EZ	18,175	9AB	1,929	5		NC	51	Durham FM Assoc/ Orange Cty RA
4	W5YA	17,680	3AB	1,699	5	AD5A	NM	12	Rancho Escondido ARC
5	KK5W	17,638	8A	4,638	2	K5DX	STX	86	BVARC / TDXS / ECHO ARC
6	W4IY	17,526	8A	4,916	2	W4AD	VA	37	Woodbridge Wireless
7	W6YX	17,336	5F	5,432	2	K6SU	SCV	38	Stanford
8	K4BFT	17,038	4A	5,267	2	N7KDT	AL	55	Huntsville ARC
9	K7LED	16,466	6A	4,941	2	AE7G	WWA	70	Mike & Key ARC
10	K8ES	15,766	4A	4,377	2	W8JK	OH	50	DELARA
11	W6ARA	15,186	4A	4,648	2	K6OTA	SCV	130	Palo Alto ARA
12	N4N	15,182	6A	4,127	2	N4G	GA	47	N4N FD Group
13	K5UZ	15,108	2A	5,027	2	K5BRC	AR	20	
14	K4JJ	14,536	3A	4,195	2	NF4GA	GA	216	North Fulton ARL
15	K5TU	14,164	2A	3,946	2	K5WKC	STX	10	Tilson CC
16	N4C	14,120	3A	4,031	2	NR3X	NC	13	Potomac Valley RC East
17	K4LRG	13,806	4A	4,139	2	N3FQ	VA	26	Loudoun ARG
18	K7LHM	13,742	2A	2,877	2	W4ZY	UT	42	Utah DX Assoc

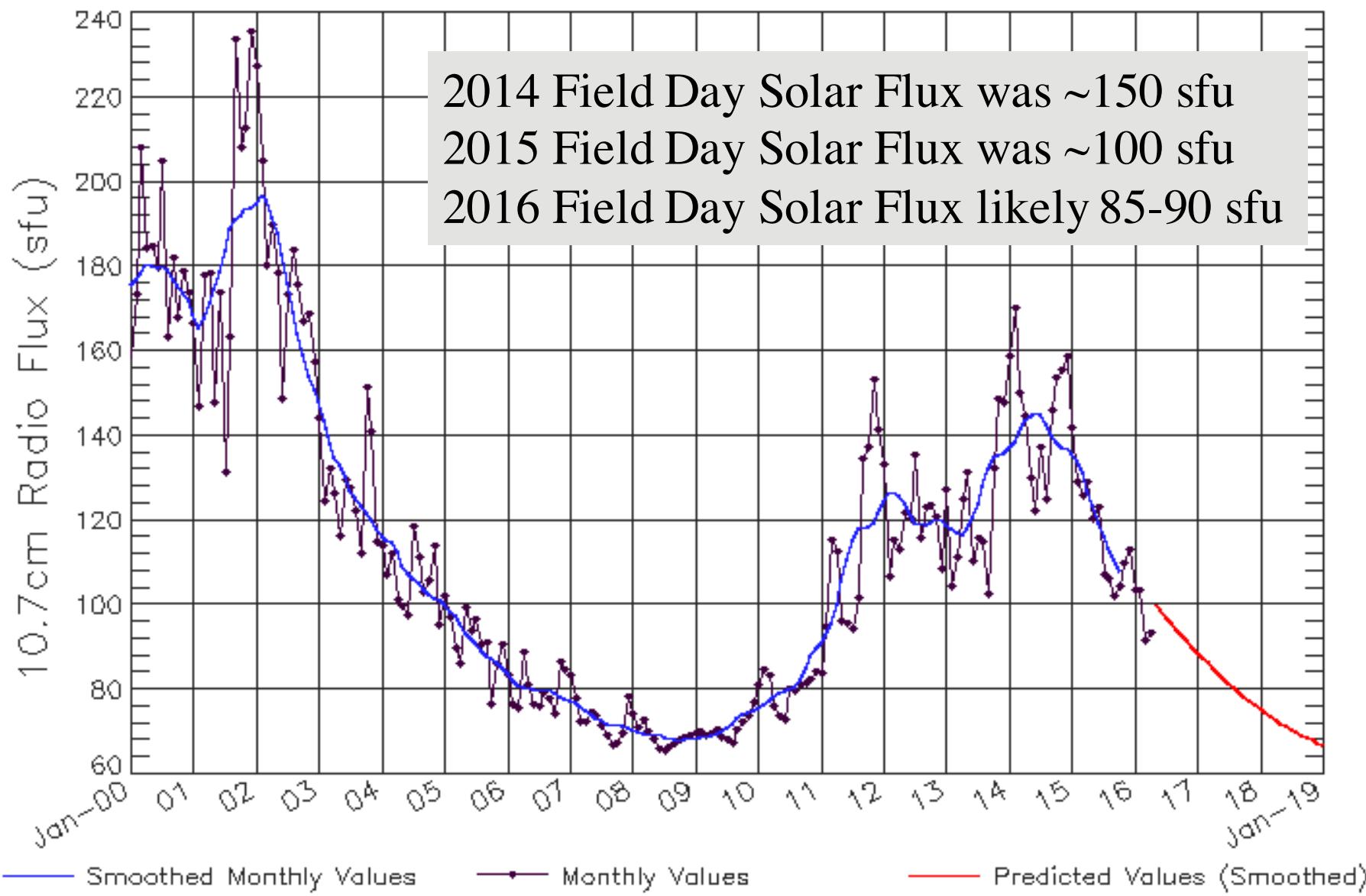
Cycle 24 Sunspot Number Prediction (2015/08)

It's time to begin
to focus on 40m!



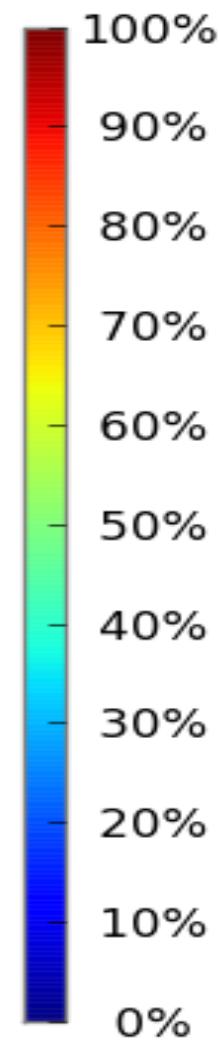
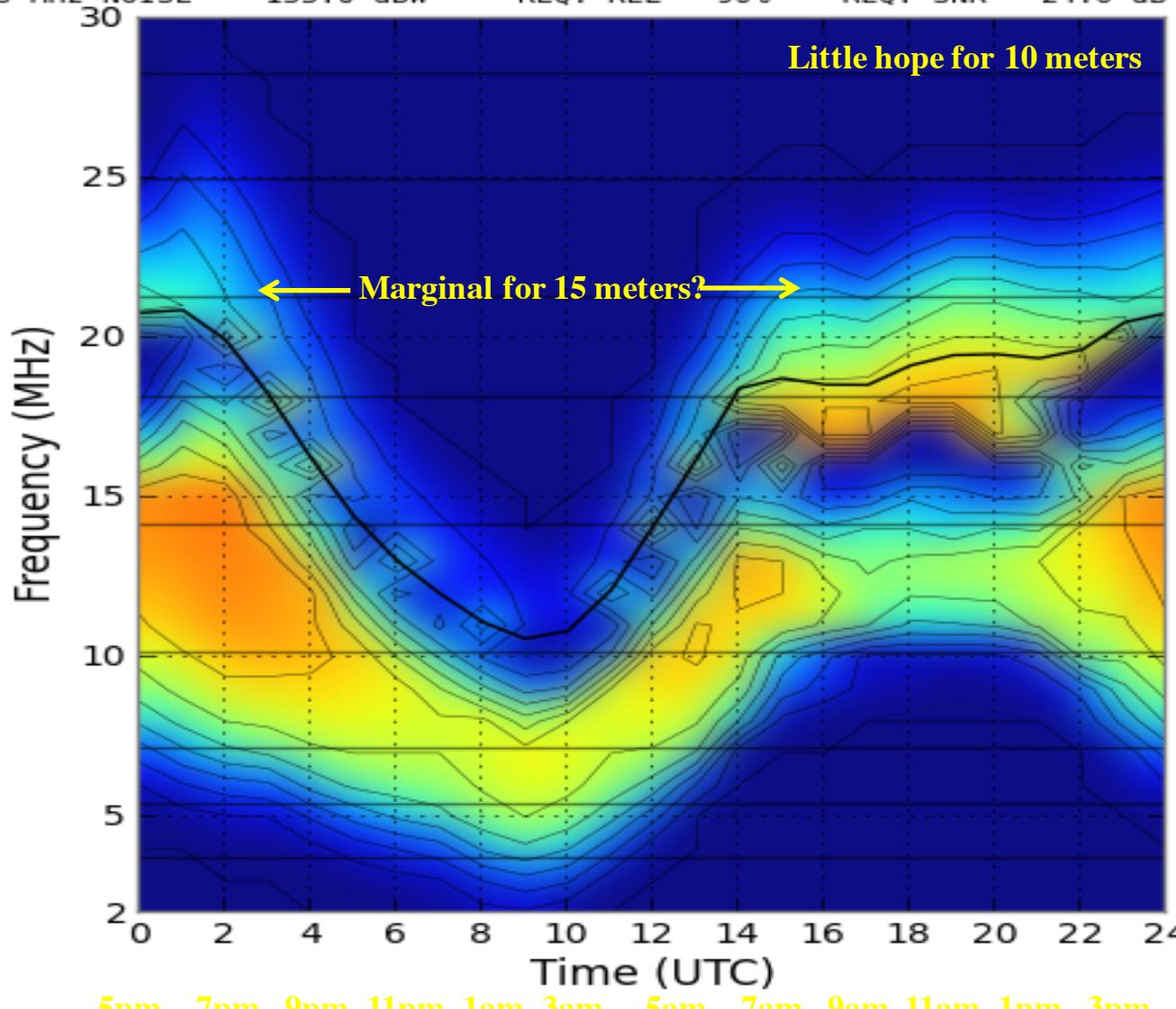
ISES Solar Cycle F10.7cm Radio Flux Progression

Observed data through Apr 2016



Circuit Reliability (%)

May 2016 SSN = 30.
Sacramento CA New York City, NY Minimum Angle= 0.100 degrees
38.58 N 121.48 W - 40.80 N 74.00 W AZIMUTHS N. MI. KM
XMTR 2-30 2-D P-to-P[voaant/d10m.ant]] Az= 0.0 OFFaz= 71.0 0.080kW
RCVR 2-30 2-D P-to-P[voaant/d10m.ant]] Az= 0.0 OFFaz=282.4
3 MHz NOISE = -155.0 dBW REQ. REL = 90% REQ. SNR = 24.0 dB



5pm 7pm 9pm 11pm 1am 3am 5am 7am 9am 11am 1pm 3pm 5pm

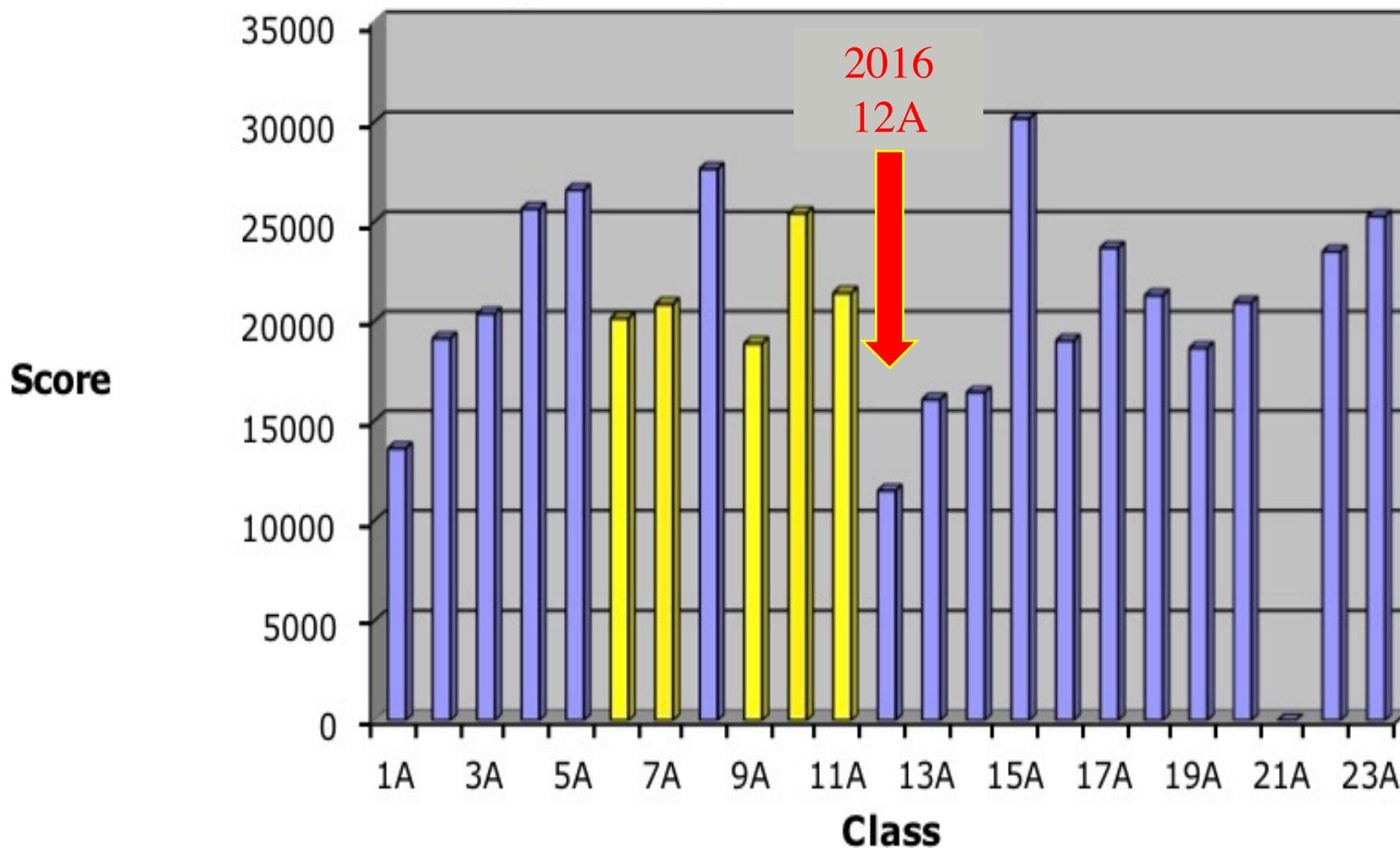
Overall Approach

Plenty of hands-on opportunities
Run 12-alpha-battery

Continued focus on GOTA

Increased emphasis on 40 meters
Even better antennas!

Field Day Battery Class Records



WVARA currently holds the all-time battery records for 6A, 7A, 9A, 10A, and 11A

12 Alpha Battery

- 1. HF/CW
- 2. HF/CW
- 3. HF/CW
- 4. HF/SSB
- 5. HF/SSB
- 6. HF/SSB
- 7. HF/Digital
- 8. 10 meter all mode
- 9. 6 meter all mode
- 10. 2 meters all mode
- 11. 440 MHz all mode
- 12. 220 MHz / 900 MHz
Free) 1.2 GHz
- Free) Satellite
- Free) GOTA

Station Captains

- SSB #1 Jon Kelley/Scott Emery (20 meters)
- SSB #2 Jack Brindle (15/80 meters)
- SSB #3 Jon Griffith (40 meters)
- Digital #1 Bill Frantz
- CW #1 Greg Olsen
- CW #2 Jim Peterson
- CW #3 Greg Olsen
- VHF/UHF Bobby Barnett
- GOTA Kevin Smith
- Satellite Bobby Barnett

GOTA



GOTA





GOTA/CW

GOTA Station

- K3 Transceiver & mic Bill Frantz
- 30ft push-up mast Jim
- 10/15/20 tribander Svend
- 40m & 80m dipoles Jim
- Table Greg Olsen and/or Scott Emery ?
- Station battery Jim
- Canopy Bill Frantz ?
- Chairs Bill Frantz ?
- Battery-powered lantern Bill Frantz ?

This Year's GOTA Coaches

- Kevin Smith
- More please!

HF Plans (SSB)

- 3 Stations
 - 20 meters
 - 40/10 meters
 - 80/15 meters
- 50ft tower: Force12 4-band yagi
 - 2 elements on 10/15/20/40 (single boom)
 - 80m dipole
 - NVIS 40m dipole for West Coast QSOs

HF Plans (CW)

- 3 Stations
 - 20 meters
 - 40 meters
 - 80/15 meters
- 50ft tower
 - 2 el 40m yagi
 - 4 el 20m monoband yagi
 - 80m dipole
- 35ft tower
 - 4 el 15m monoband yagi
 - NVIS 40m dipole for West Coast QSOs

HF Plans (Digital & GOTa)

- 1 Digital Station (focused on 20/40/80)
- 1 GOTa Station (will operate on non-interfering basis)
- 30ft (push-up) mast
 - Svend's 10/15/20 tribander
 - 40 & 80m dipoles

Field Day

WVARA VHF/UHF Station

Bobby Barnett
KA4VBF



Objectives

- Definitely cover 6m, 2m, 70cm in SSB and FM.
- Possibly cover 1.25m and 23cm in SSB and FM.
Need to research this.
- May add Broadband-Hamnet / HSMM-MESH node for IP access in 13cm (bottom 6 channels of Linksys WiFi router is in ham band). Could cover camp with WiFi off of that.
- Will try to hit SO-50 on a pass.
- Will look into how to work with the inverting transponders on OSCAR-52 and OSCAR-29.

Equipment

- **Icom-7100** will do 6m ($\leq 100\text{w}$), 2m ($\leq 50\text{w}$), 70cm ($\leq 35\text{w}$) on SSB and FM.
- **Elecraft KX3/KXPA100** for 6m any mode up to 100w.
- **Yaesu FT-817** will also do 6m, 2m, 70cm up to 5w any mode as backup, monitor, or second station.
- **Linksys WiFi router** with modified firmware for Broadband Hamnet in 13cm band
- **Icom HT and handheld dual band yagi** for satellites
- There are also a couple of other PA's I have access to, depending on what we decide for power.



Equipment

4 small “towers” for antenna mounting.

Each is 21' tall, has 3 guy lines with a ~20' diameter, and has a rotatable mast when setup. Lots of LMR400 and RG8 interconnect.

1.6m 3 element horizontal Yagi is Super Antenna YP3.

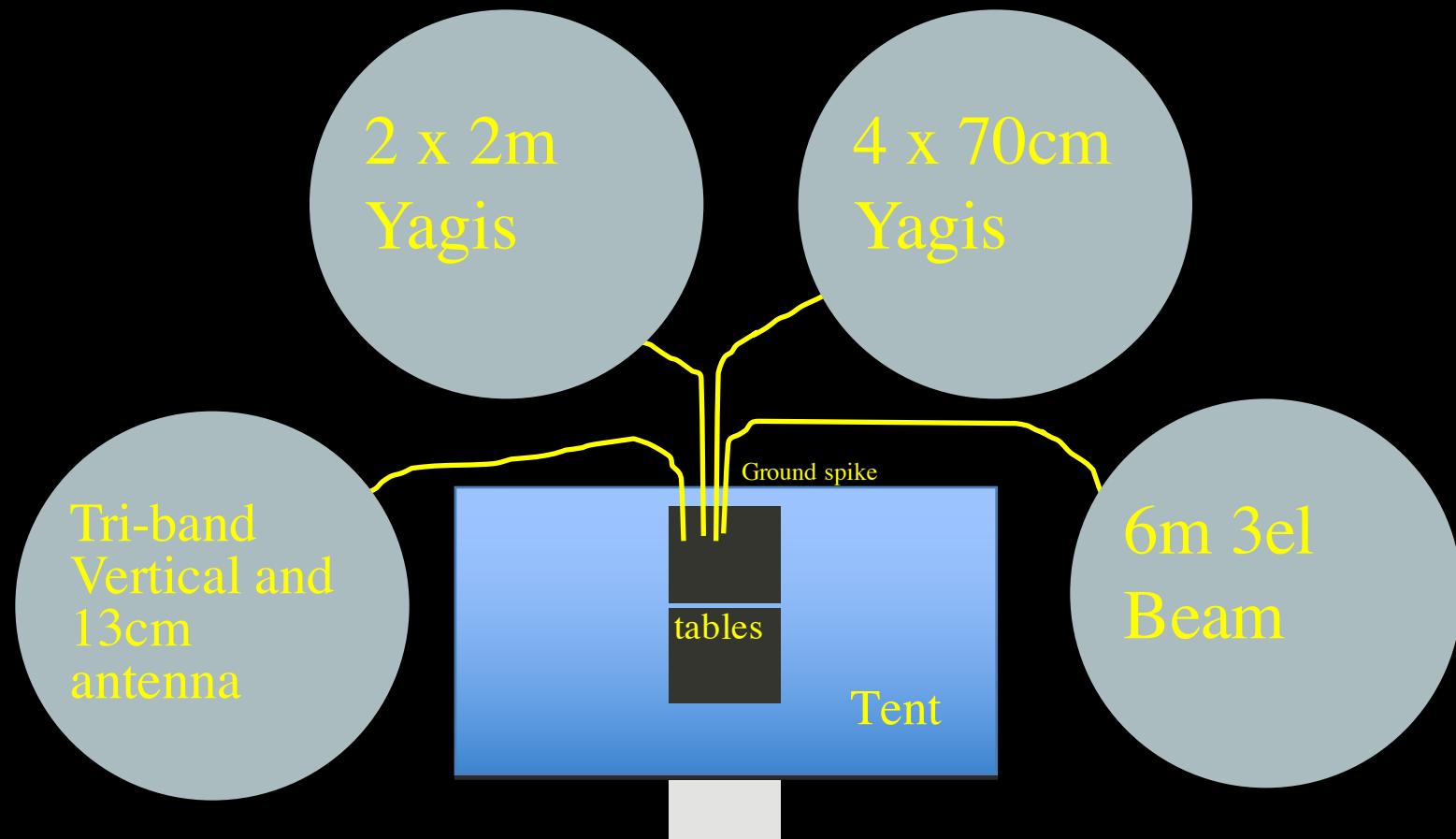
2.Two stacked 2m 4el horizontal Yagis for ~10 dB gain. This is a new setup I am playing with now.

3.Two or four stacked 70cm 7el horizontal Yagis for ~13 dB gain. This is also a new setup I am playing with.

4.6m/2m/70cm vertical will work for FM contacts. Is a Diamond V-2000 w 2/6/8 dB gain. Will also mount 13cm high gain antenna to point to another Broadband Hamnet node.



Layout



Also already in possession of a large tent, floor tarp, mat, card tables, and chairs.

Layout



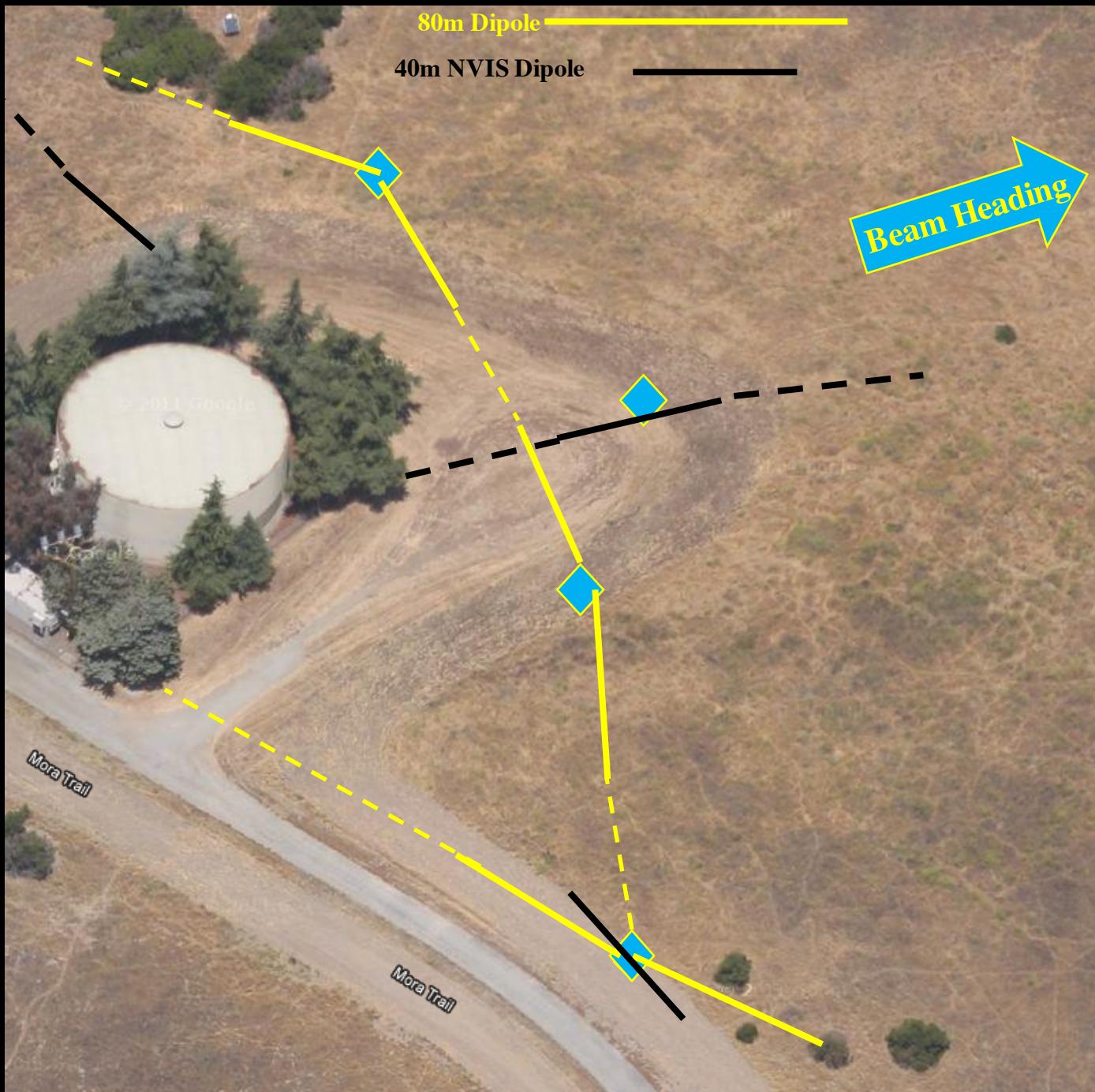
The setup could move around,
but it would be about this big

Mora Trail









Time Table

- Set-Up Friday 8am to 5pm
- Operate! Saturday 11am - Sunday 11am
- Tear-Down Sunday 11am - 1pm

Important Jobs

- Ice, tower trailer, daytime power -- Svend
- Clean-up - Everybody!
- First Aid Kit - ???
- Porta-potty rental -- Jim P
- Ranger coordination – Jim P

Bonus Points

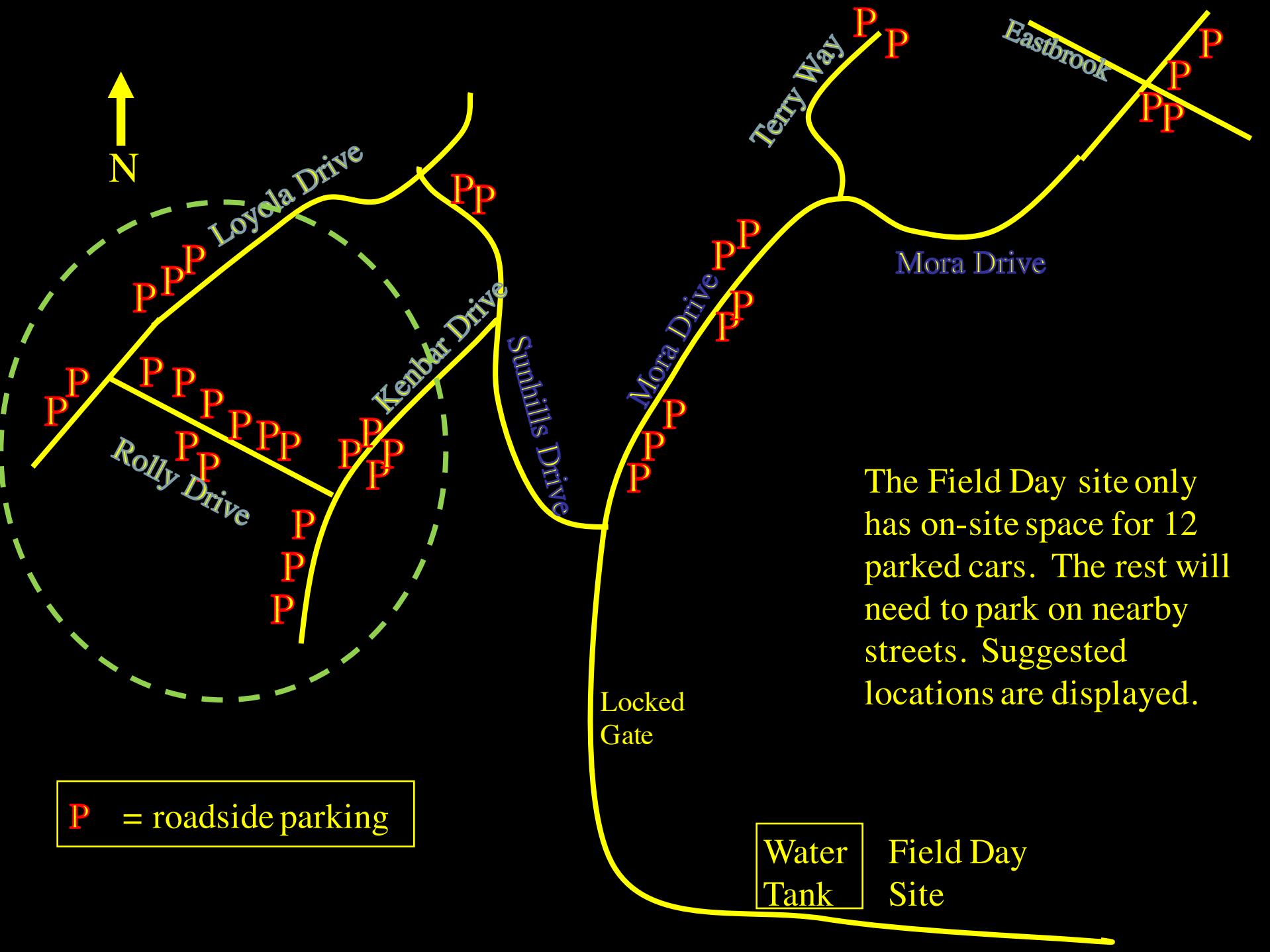
- 7.3.1 Emergency Power (100pts per transmitter = 900pts) - covered
- 7.3.2 Media Publicity(100 pts) Tom Dunbar
- 7.3.3 Public Location (100 pts) -covered
- 7.3.4 Public Information Table and Materials (100 pts) - **OPEN**
- 7.3.5 Message Origination to Section Mgr (100pts) Tom Dunbar
- 7.3.6 Message Handling (10 messages=100pts) - Tom Dunbar
- 7.3.7 Satellite QSO (100pts) – Bobby Barnett
- 7.3.8 Alternative Power (100pts) - Tom Dunbar (solar)
- 7.3.9 W1AW Bulletin (100pts) - **OPEN**
- 7.3.10 Tutorial Demo (100pts) - **OPEN**
- 7.3.11 Site Visitation by elected official - Jon Kelley ?
- 7.3.12 Site Visitation by served agency (100pts) - covered (visiting ranger)
- 7.3.13 GOTA Station / GOTA Coach - covered by GOTA team
- 7.3.14 Web Submittal (100pts) JimP
- 7.3.15 Field Day Youth Participation (max of 100pts) - all

GOTA Bonus Points

7.3.13 GOTA Station / GOTA Coach

- 20 bonus pts for every 20 QSOs by same operator
- Bonus pts doubled if coaches present full-time
- 20pt bonus (up to 100 pts) for each participant under 18 who completes at least 1 QSO

Parking



The Field Day site only has on-site space for 12 parked cars. The rest will need to park on nearby streets. Suggested locations are displayed.

The Three No's

- No open flames of any kind
- No parking on the hilltop along the road
- No loud noise / bright lights after dark

What to Bring

- Sunscreen, hat, sunglasses
- Purel, hand sanitizer
- Water
- Munchies



