



Bonner County Amateur Radio Club

Meeting

VFW Post

1325 Pine Street, Sandpoint, ID 83864

18:00 hrs. – Informal Discussions & Eyeball QSO's

18:30 hrs. - Meeting

Why Are We Here? Per the Bylaws BCARC

- 1. Facilitate communication and fellowship among amateur radio operators*
- 2. Increase the number of licensed amateur radio operators through training and community awareness and promote active use of the hobby, and provide assistance to new operators to help them get on the air*

Introductions - Guests, New Members, Members

Current Membership

As of June 2023

(Reflects members with paid up annual dues)

Total	45
Extra	13
General	22
Technician	7
No Callsign	3

FIELD DAY FOCUS

HF PROPAGATION!!

Why can't I reach a station I can hear very well?

It Depends...

Did The MUF just drop?

My contact disappeared

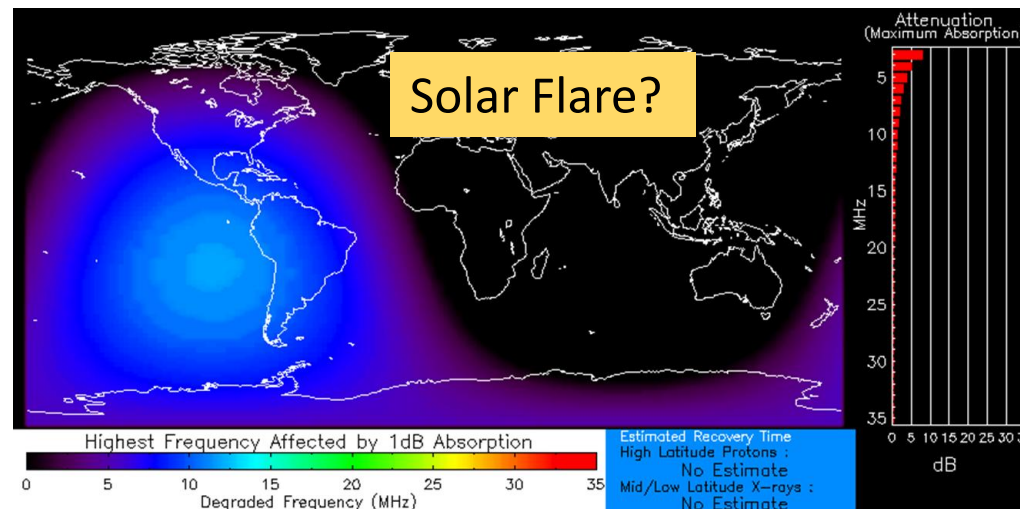
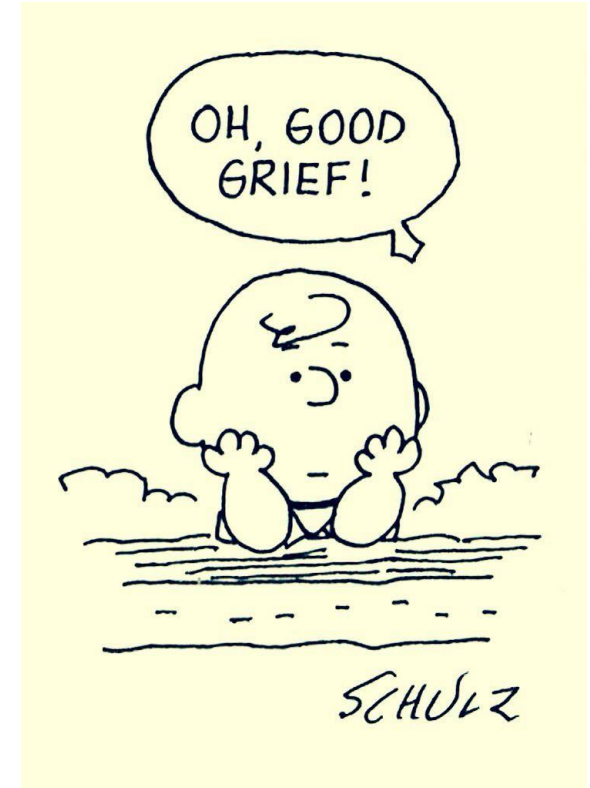
ONE WAY PROPAGATION

OUR FRIEND – THE SUN!!

I have an S9 noise level

Static Crashes

Time of Day;
Thunderstorms



Lowest Usable Frequency (LUF)

Somewhere in
the middle...

Maximum Usable Frequency (MUF)

Field Day

- Field Day is not a contest, but...
- A lot of people treat it that way. They move fast and move on quickly.
- Tips for calling CQ:
 - Keep CQs short. “CQ Field Day, Kilo 7 Juliet Echo Papa” every 5-7 seconds.
 - Once you start getting contacts, give your exchange and get their exchange , then “QRZ K7JEP”. The “CQ.....” if no one comes back to the “QRZ K7JEP”
 - If someone answers and you need a repeat, ask once or twice.
 - You can always say “Sorry, try again later, CQ K7JEP” or something like that.
- Tips for “Search & Pounce” (S&P):
 - Call the target station with K7JEP once, repeat at most twice if not recognized the first time & then move on. Avoid using phonetics unless requested by called station – takes way too long! They will probably be there later. Don’t get stuck in a pileup.
 - Again, if things drag on, just move on and try them again later.

HF PROPAGATION!!

Field Day Band Plan:

The issue is not what band do we pick, but:

Who can we communicate with, at what time of day.

How Far?

What Direction?

Depends on time and Ionosphere

Gray Line?

Revised Band Plan - Only One Station per Band at Any Given Time							
	80m	75m	40m	20m	15m	10m	
BCARC SSB Station							
11:00 AM -10:59 PM				X			(20m dipole)
BCARC FT8 Station							
11:00 AM - 10:59 PM					X		(6BTV)
BCARES Station 1							
11:00 AM -10:59 PM						X	
BCARES Station 2			X				
11:00 AM -10:59 PM			X				
	80m	75m	40m	20m	15m	10m	
BCARC SSB Station							
11:00 PM -10:59 AM				X			(20m Dipole)
BCARC FT8 Station							
11:00 PM -10:59 AM	X					*	(6BTV)
BCARES Station 1		X					
11:00 PM -10:59 AM		X					
BCARES Station 2			X			*	
11:00 PM -10:59 AM			X			*	
Sunrise	24-Jun	4:45 AM					
Sunset	24-Jun	8:51 PM					
Sunrise	25-Jun	4:46 AM					
* Move to higher band at operators discretion at sunrise, Sunday							

Field Day Band Plan:

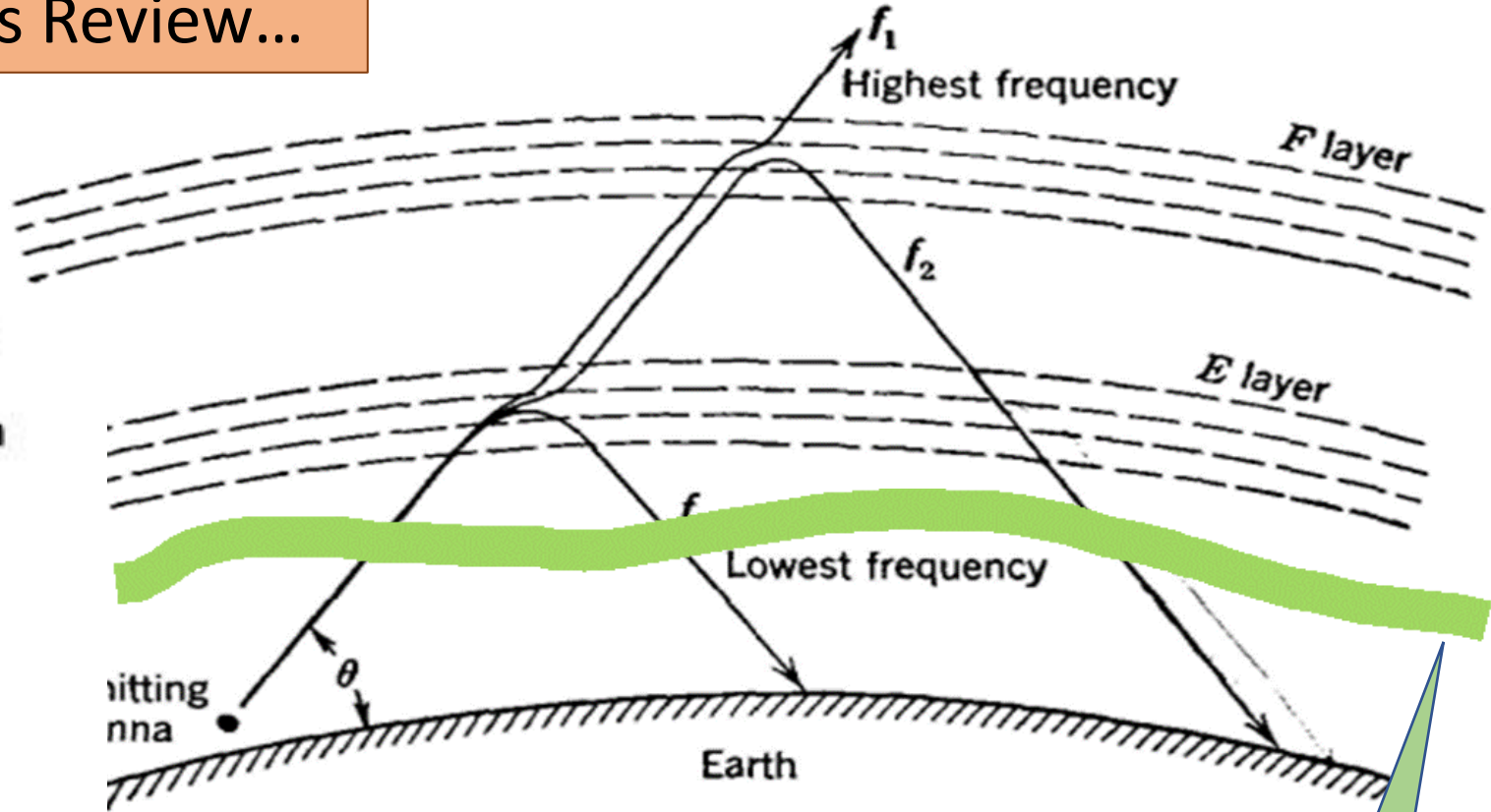
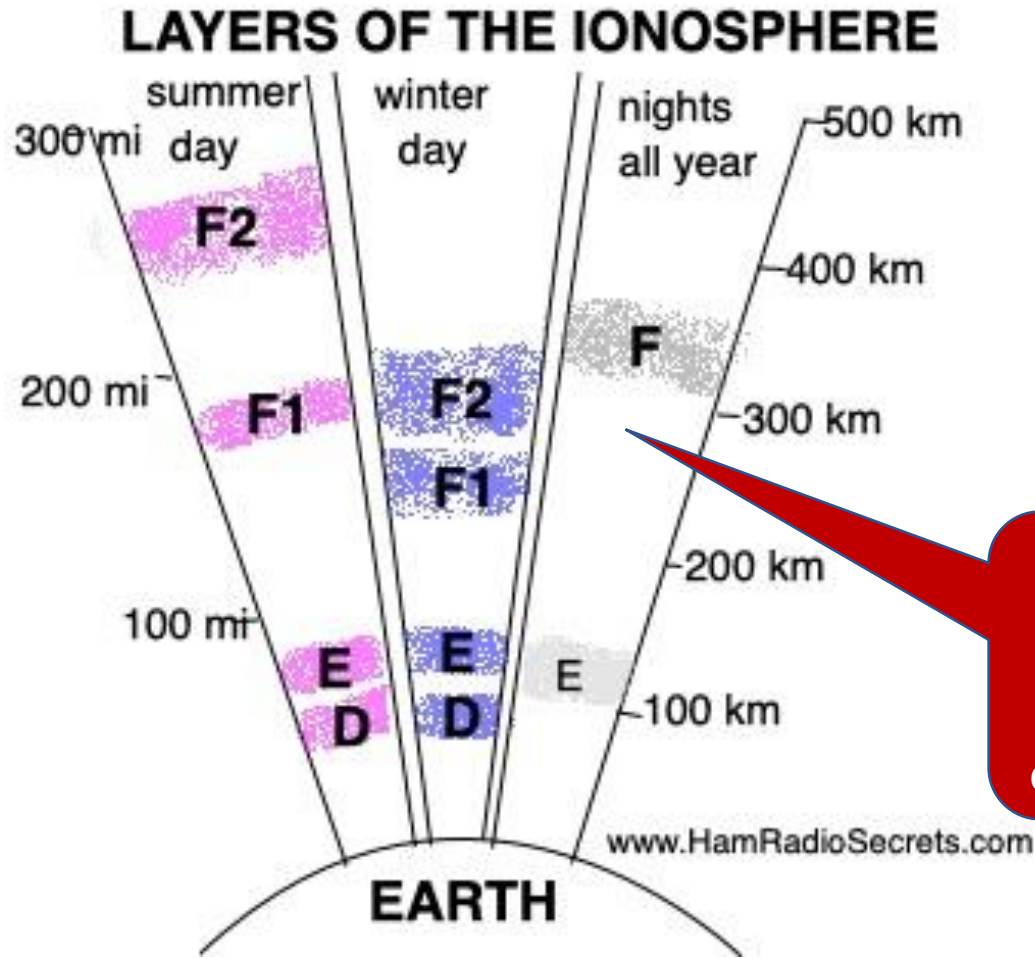
HF PROPAGATION!!

1. There are never two radios on the same band at the same time with the exception of 75/80m and that as we all know is not really "the same band."
2. From everything we know and have learned, 75m and 80m can operate simultaneously using tuned stubs, one for 75m and one for 80m
3. Placing BCARC on 80m FT8 at night and BCARES on 75m Phone at night provides for the maximum separation of antenna with BCARES on the north end of the property and BCARC on the south end of the property.
4. Swapping high bands (BCARC on 10m and BCARES on 15m) sometime on Sunday morning gives each of us a new band to work. This should minimize the problem of high band dupes Sunday day.

WE MAY GET SOME DX CONTACTS ON 20M & UP

Radio Waves

Let's Review...

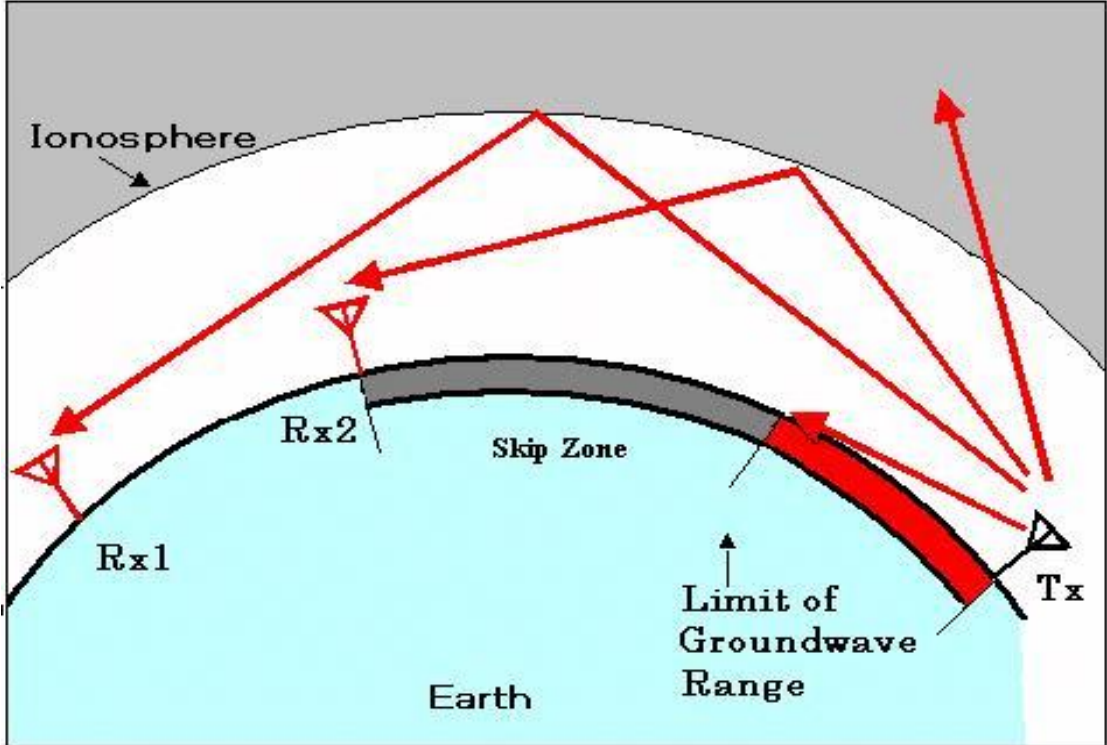
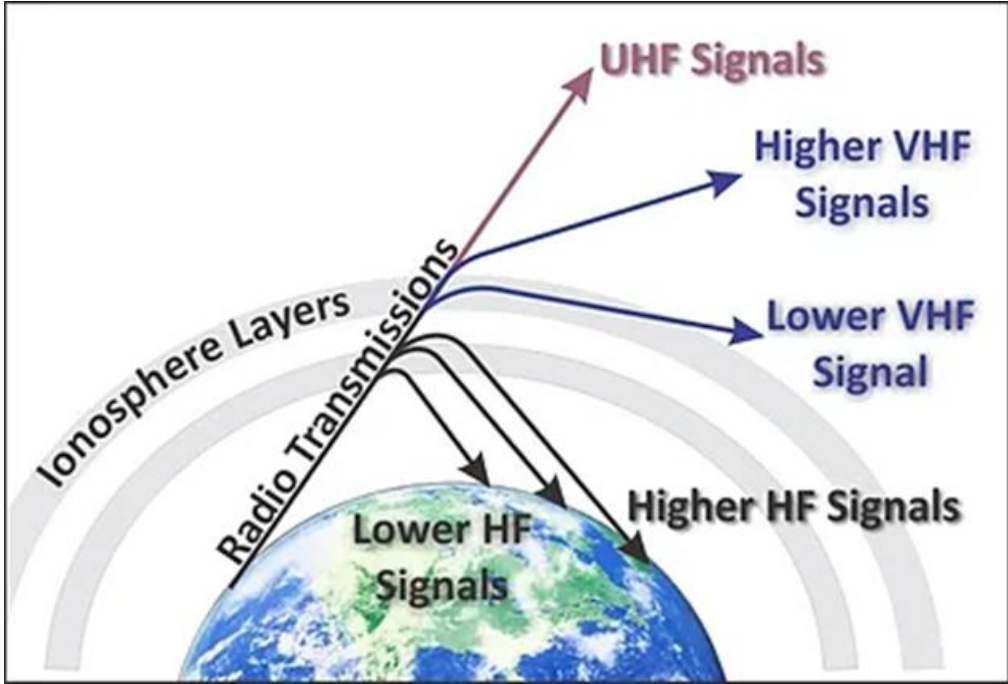
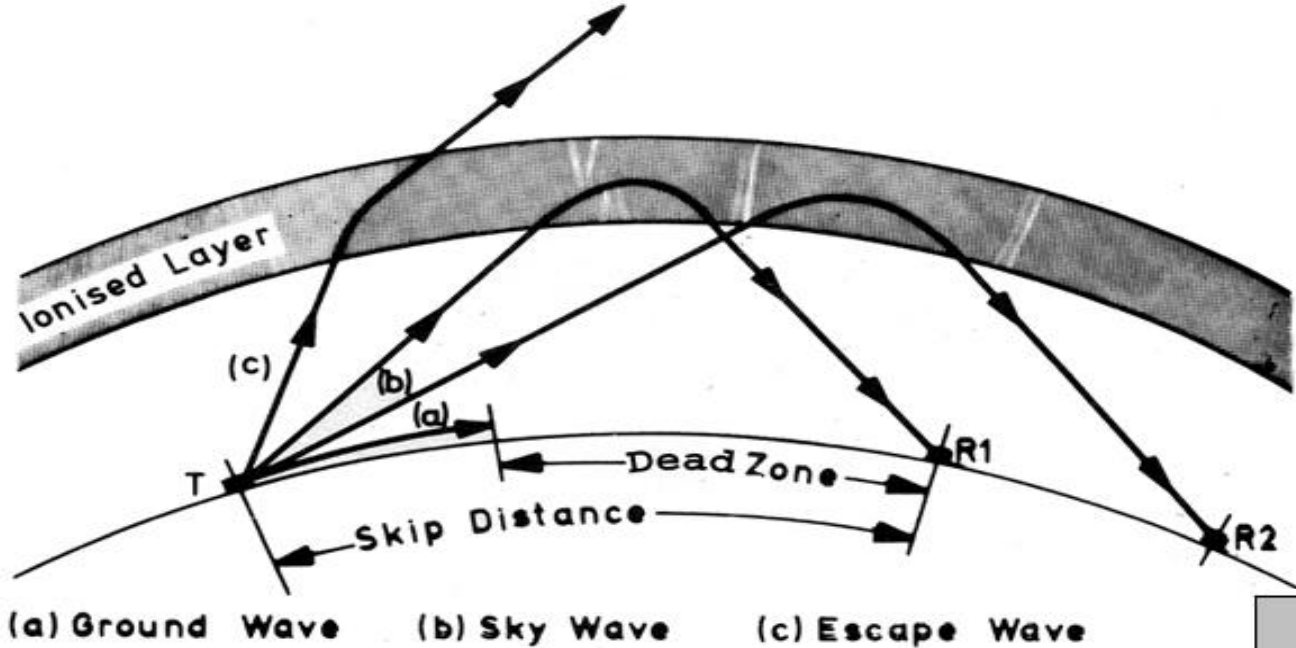


IT'S THE DIFFERENCE BETWEEN NIGHT AND DAY: "HARDER" F LAYER = LONGER HOPS AT NIGHT ON LOWER FREQUENCIES

Ionospheric Effects

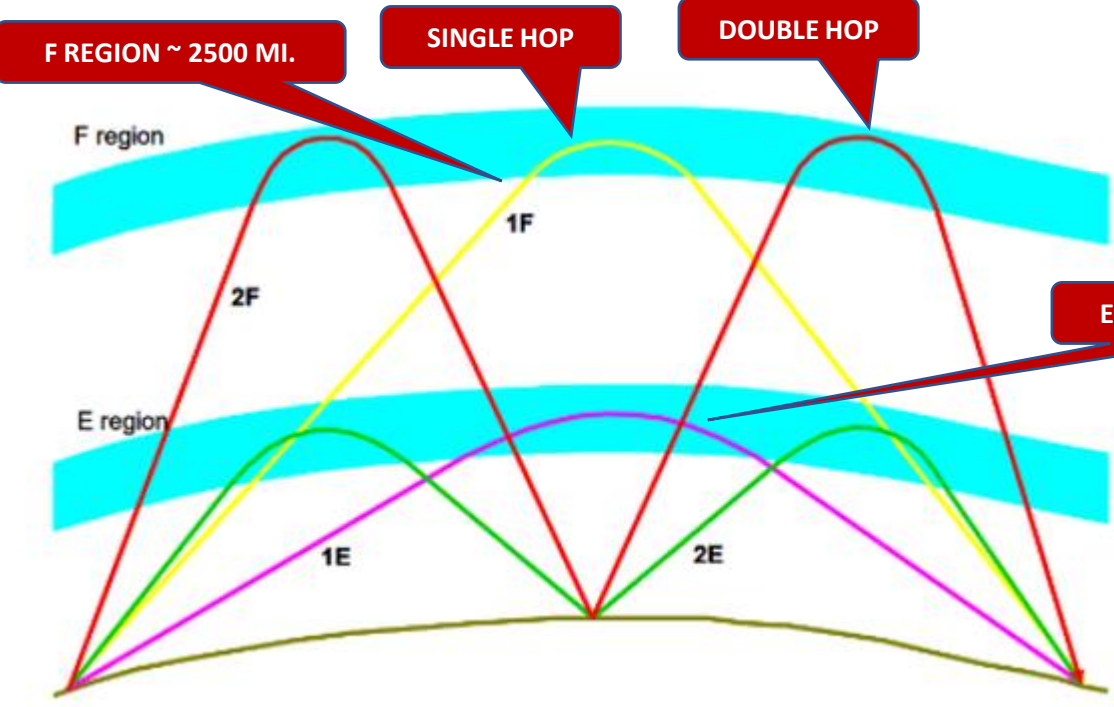
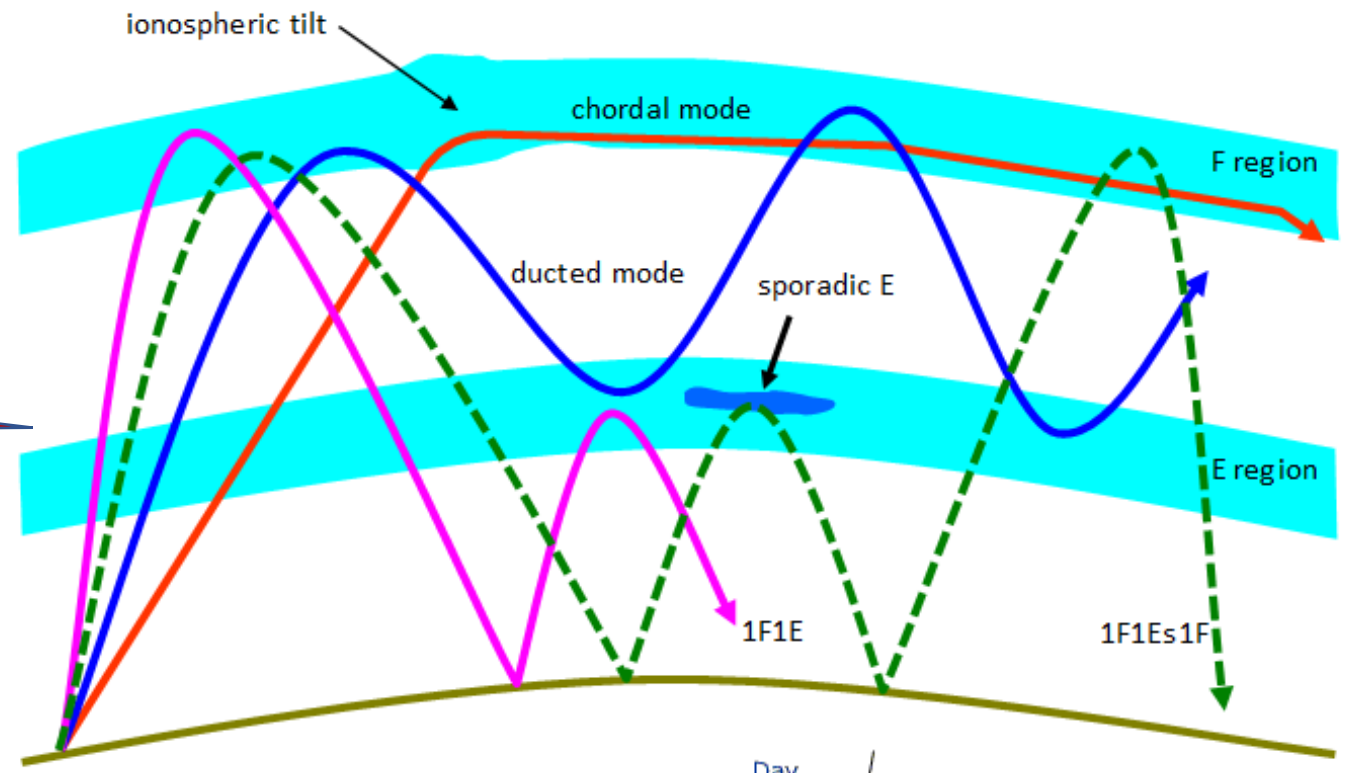
SKYWAVE vs. GROUNDWAVE Propagation

Skip, Reflection off the E and F layers



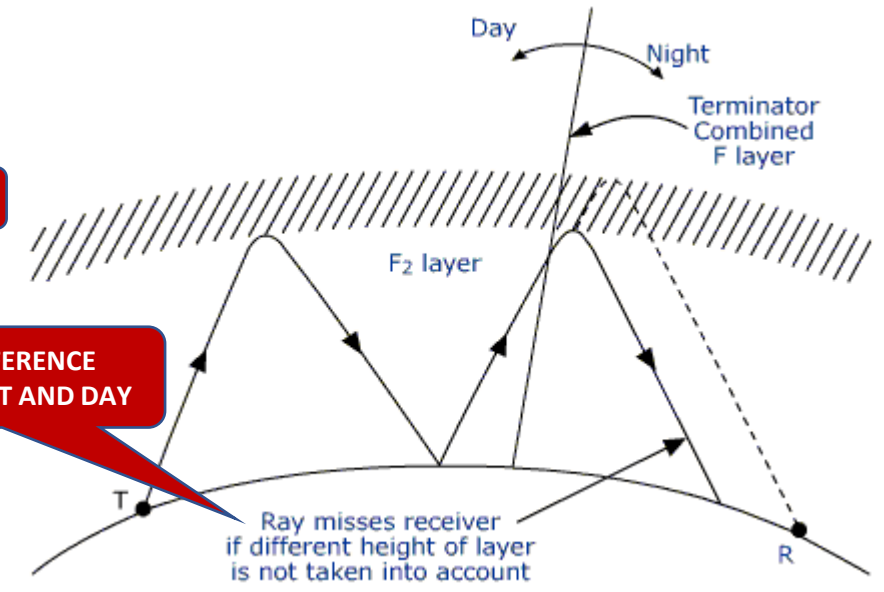
SKY WAVE: Long Range - DX

TYPES OF PROPAGATION



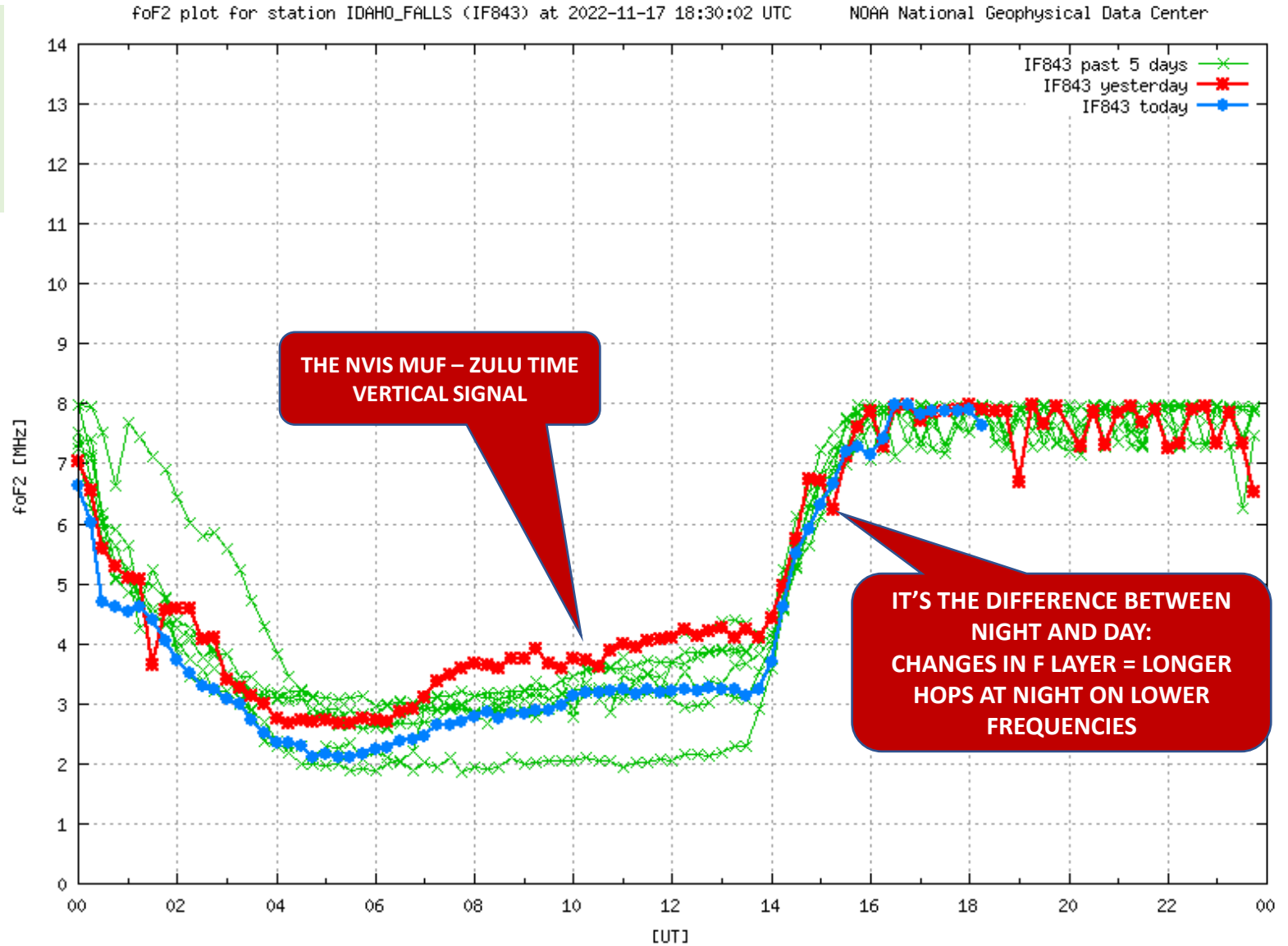
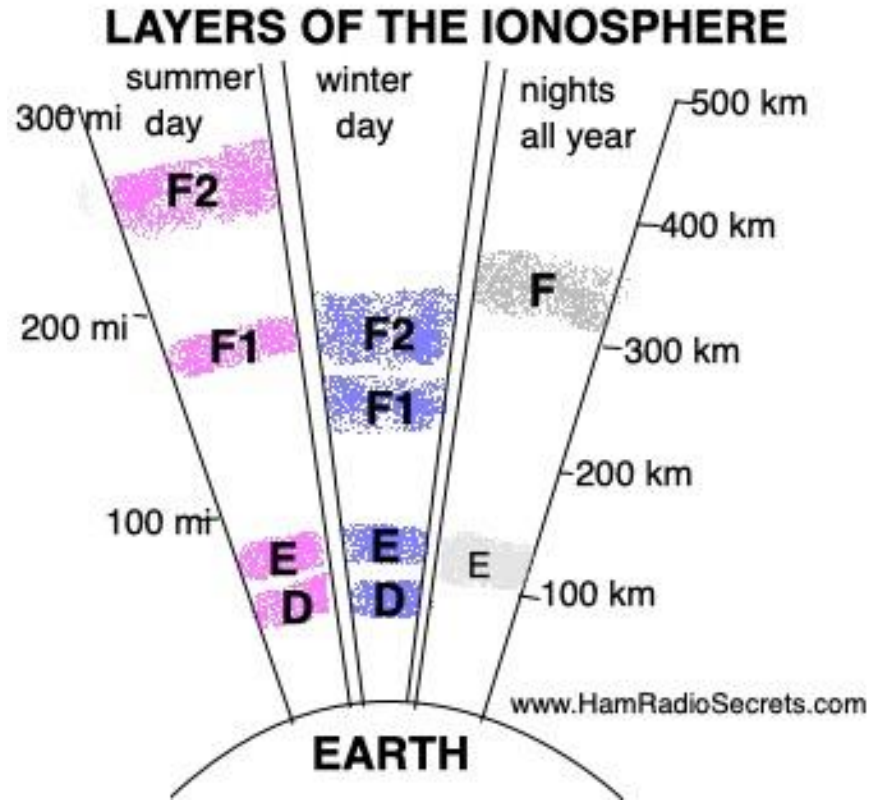
E REGION ~ 1200 MI.

IT'S THE DIFFERENCE BETWEEN NIGHT AND DAY



MAXIMUM USABLE FREQUENCY

It depends...



These plots show radical NVIS MUF swings at Boulder, CO and IDNL during recent ARES 75/80m and USAF MARS/SHARES (band unknown) nets.

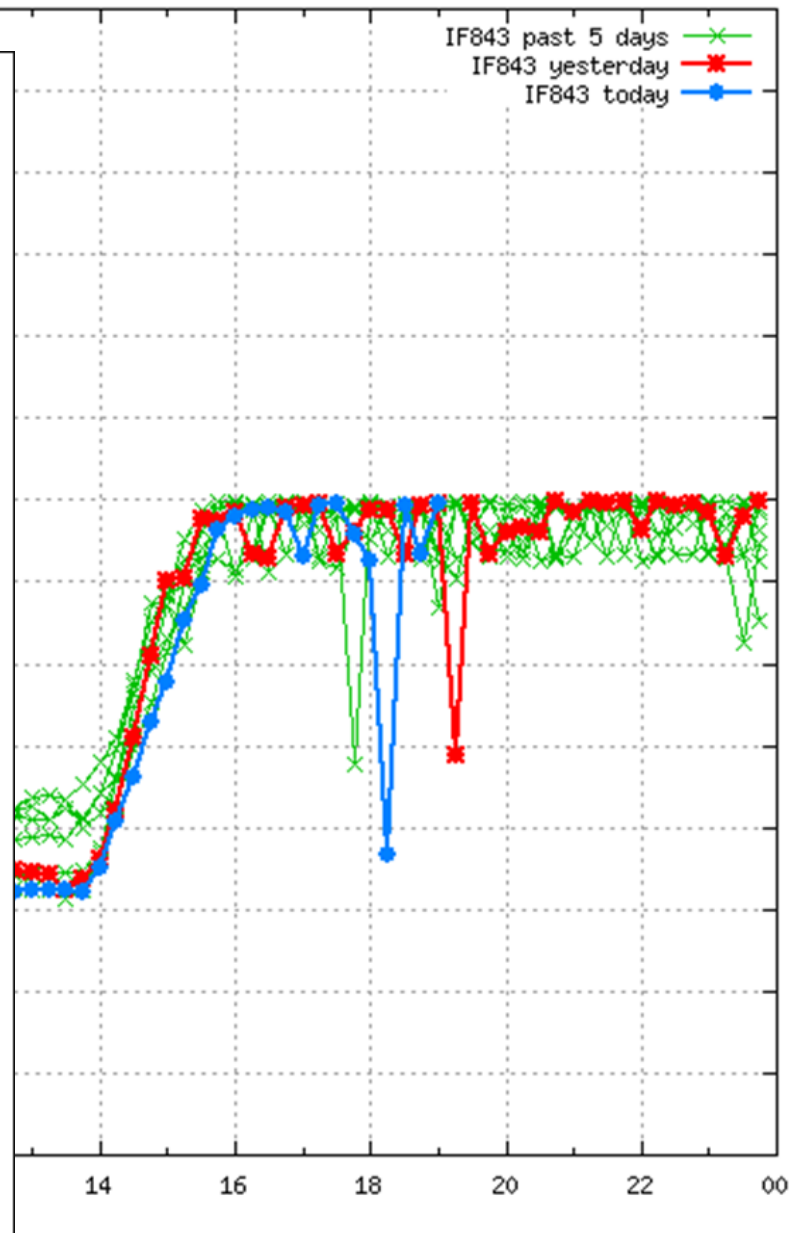
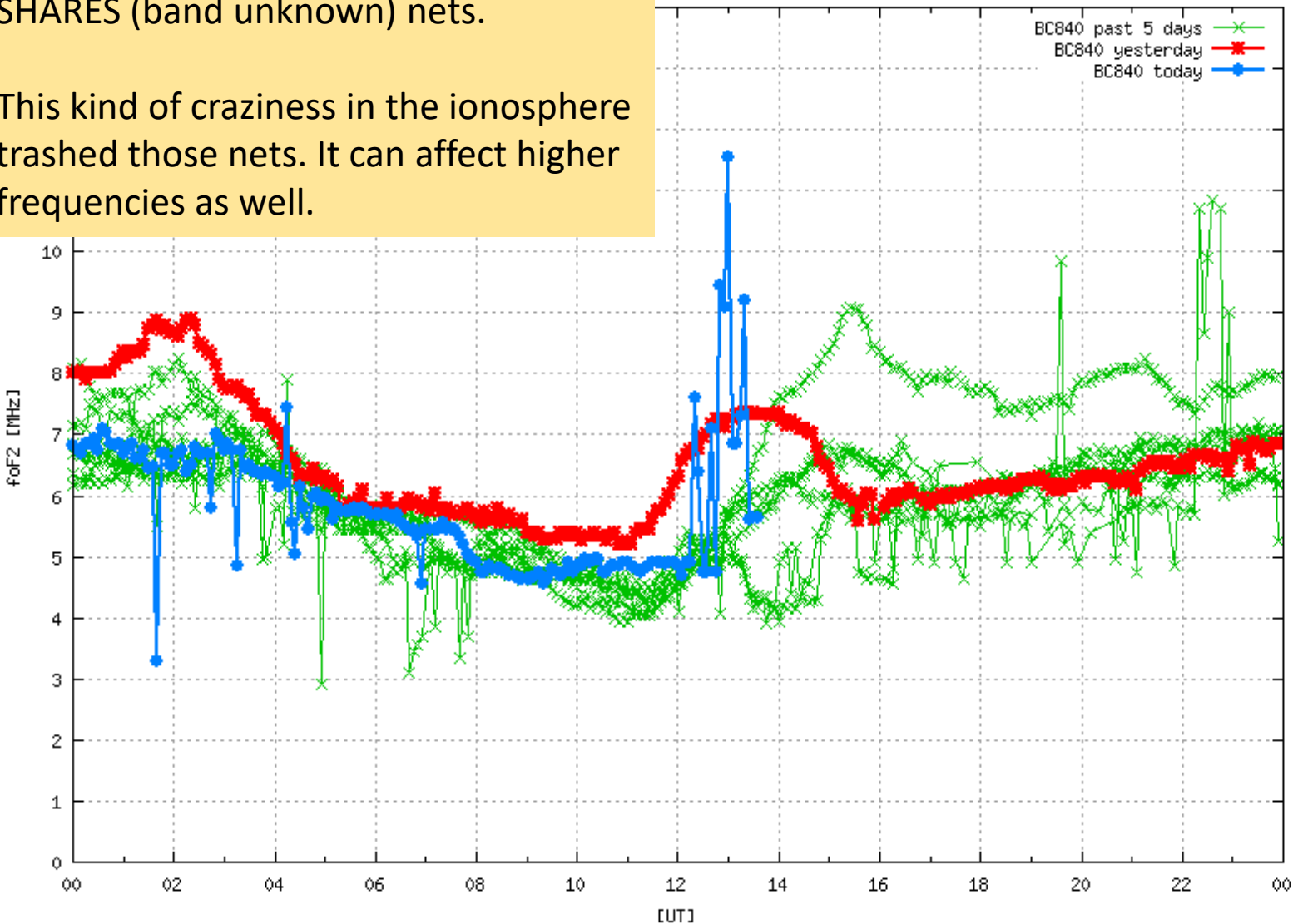
This kind of craziness in the ionosphere trashed those nets. It can affect higher frequencies as well.

foF2 plot for station IDAHO_FALLS (IF843) at 2022-11-21 19:15:01 UTC

NOAA National Geophysical Data Center

13:45:01 UTC

NOAA National Geophysical Data Center



HF Summertime Propagation...with Propagation Advice for Field Day

Posted by Ward Silver, N0AX on June 2, 2023 at 9:24 am

Summertime

Operatin' is easy

Sunspots jumpin'

Your antenna's up high

The openings switch

Those bands just keep changin'

The regions and seasons

Tell you why

(apologies to George Gershwin and DuBose Heyward)

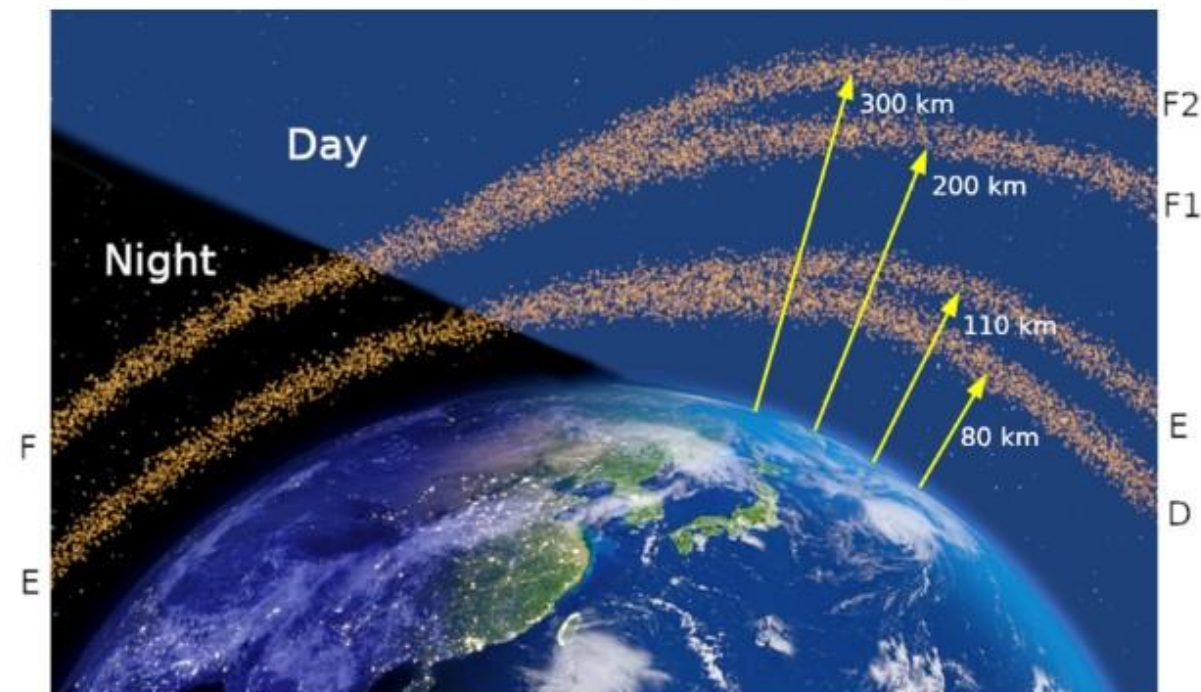
It seems like just a few weeks ago, the upper HF bands were open all day long to faraway places. At night, the low bands took up the slack, especially as the terminator slid past your location. While we still have plenty of sunspots (thank you, Cycle 25!), the bands are beginning to sound a lot different as summer gets underway. It's natural to expect that with even more daylight, the upper HF bands should be even more open, so what's going on? What should we expect during Field Day, which is about a month from now and close to the summer solstice?

Article forwarded by WB7ML,
ARRL club coordinator for Idaho

Summertime Ionosphere

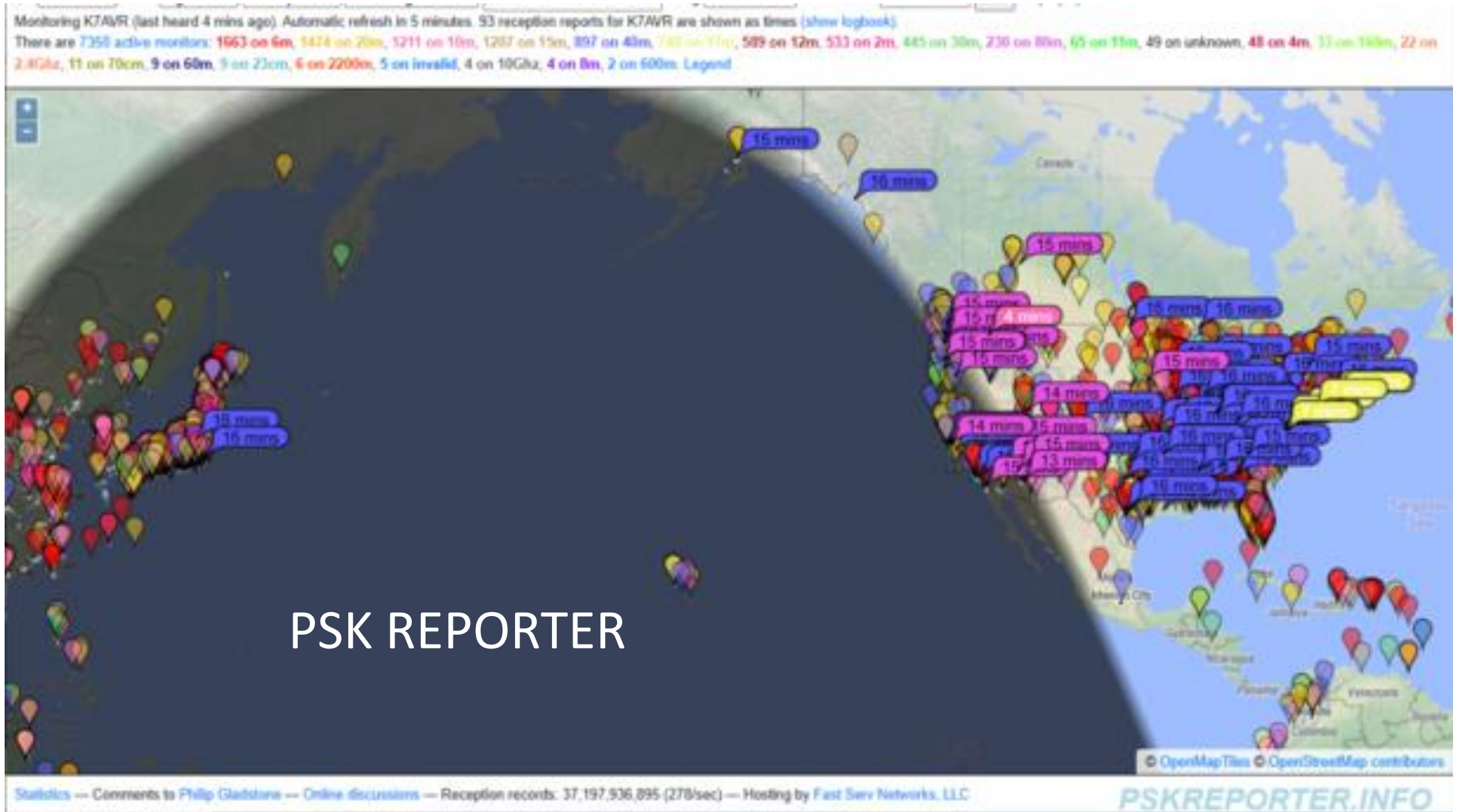
First, let's recognize that when we here in the U.S. talk about "summertime," we're really just referring to the Northern Hemisphere. The tilt of the Earth's axis means that the northern ionosphere is illuminated longer and more directly by UV from the Sun. That means its structure will be a little different in the summer than in the winter, and HF propagation will be different too.

Illumination of the ionosphere with UV varies greatly with time of day and the seasons. The phase of the solar cycle also matters, and we are in the rising phase of Cycle 25 during which sunspot activity is increasing. More sunspot activity also increases ionization in all of the regions—D, E, F1, and F2.



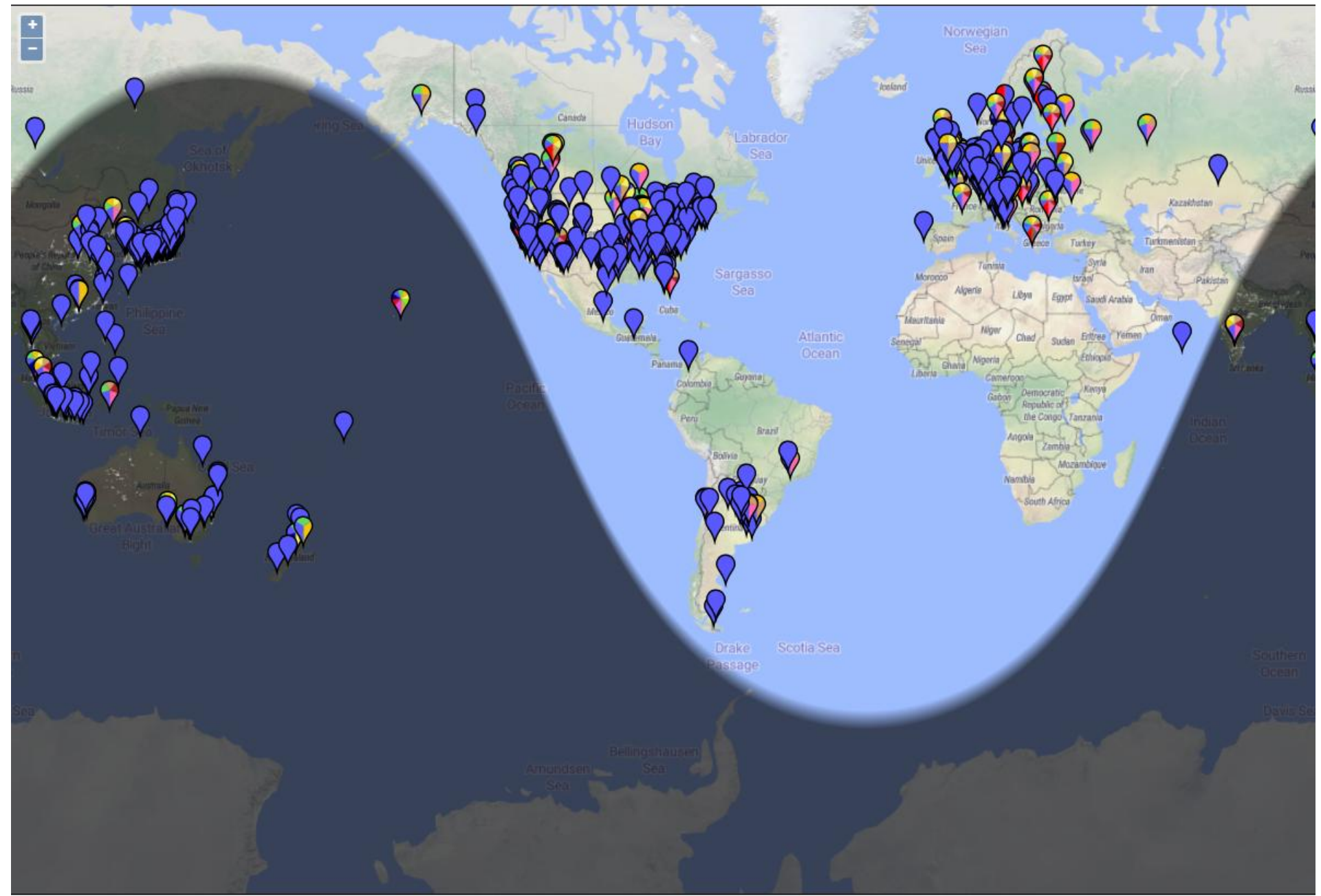
Add to locally illustrate Richard's article on propagation (link below), here's a snapshot of the bands at 5AM this morning (my FT8/WSJT-X on pskreporter). [Info from Lee Lukehart, K7AVR](#)

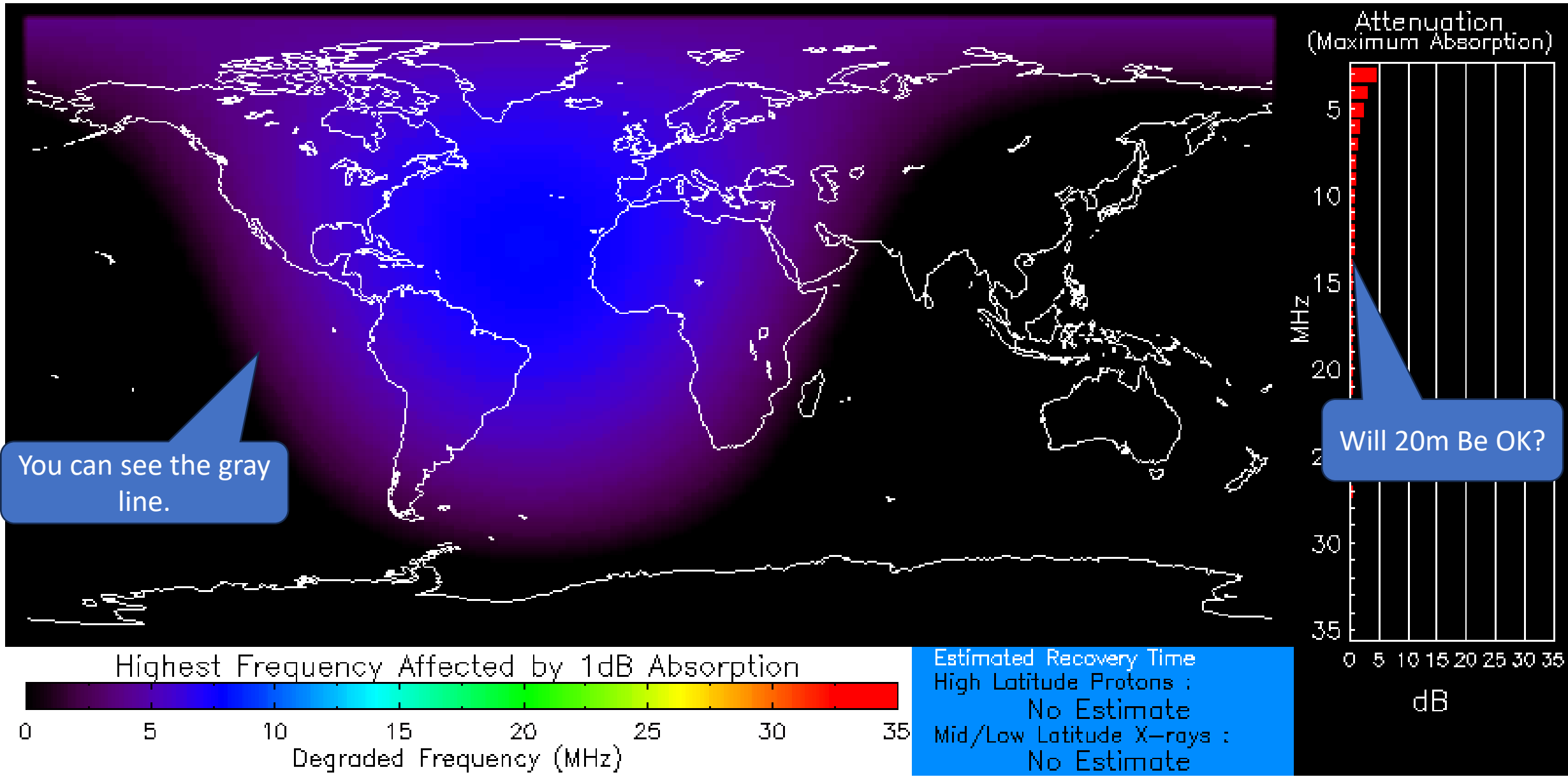
Notice the clear range differences (like a rainbow), from my dipole here north of Sandpoint (purple=80m, blue=40m, yellow=17m):



On show sent by using over the last [Display options](#) [Permalink](#)
Monitoring K7SYS (last heard 3 mins ago). Automatic refresh in 5 minutes. Large markers are monitors.
There are 872 active FT8 monitors: 858 on 40m, 195 on 20m, 159 on 15m, 154 on 17m, 139 on 30m, 133 on 10m, 95 on 12m, 81 on 6m, 30 on 80m, 19 on 2m, 10 on 160m, 8 on 60m, 2 on 600m, 2 on 11

STATIONS HEARING K7SYS ON FT8 FOR THE PREV 24 HOURS – AS OF SUN JUNE 11, 0645 PDT





Normal X-ray Background
 Product Valid At : 2023-06-11 14:19 UTC

Normal Proton Background
 NOAA/SWPC Boulder, CO USA

Morning:

[Info from the On All Bands article...](#)

- Short skip likely on the higher HF bands and 6 meters by mid to late morning.
- NVIS useful on 40 meters but weaker on 80 meters due to absorption.

Afternoon:

BCARC HAS 20M ON SSB, 15M ON FT8/CW SATURDAY UNTIL 2300

- Start looking for 40 meters to open to the east and stronger 20 meter signals.
- Before sunset the higher HF bands may open. 20/40m will be strong after sunset.

Evening:

- 20 meters and even 15 meters may continue to be open for some time to the west.
- 40 meters will be open across the continent for quite a few hours.
- 80 and 160 meters will come alive a few hours after sunset.

Night:

BCARC HAS 80M ON FT8/CW AFTER 2300 SAT NIGHT

- Depending on solar flux levels, 40 meters may be excellent all night.
- Night crew should make the most of 80 and 160 meter activity in your region.

Sunday - Sunrise:

- Look for 20 to 10 meters to open quickly to the east as UV ionizes the F2 region.
- The higher bands degrade as blanketing and absorption build up from the F1 and E regions.
- Short skip will develop on the higher HF bands.
- NVIS will be useful on 40 and 80 meters, but 80 meters will fade due to absorption.

BCARC HAS 20M ON SSB, 10M ON FT8/CW SUNDAY UNTIL ITS OVER

There is so much to HF propagation that every operator, experienced or new, with stations large and small, has something to learn every day, every season, and every year.

Thanks also to Frank Donovan, W3LPL for his helpful [presentation, “High Frequency Propagation During the Rising Phase of Cycle 25.”](#) He touches on many topics of interest during this always interesting, sometimes vexing, period as the sunspots return to the solar disk.

The ionosphere also has plenty of tricks to play, so get on the air on your assigned band and mode and see who you can work!

Have FUN at Field Day!!!

IMPORTANT SAFETY NOTE:

WE ARE USING BANDPASS FILTERS AND STUBS ON OUR ANTENNAS WHICH NEED TO BE SWITCHED WHEN WE CHANGE BANDS.

DO NOT CHANGE BANDS WITHOUT CHECKING WITH THE BAND CAPTAINS!!!!

Business Items to Report

- We hope to see everyone for Field Day!
 - Road is out between 95 and Field Day site
 - Alternate route(s) suggested
 - Did you get your dinner count in?
- Recently completed Events
 - ARRL International Digital Contest (excluding RTTY)
 - BCARC Digi Team 1 (Jim KJ7SEN, Ken KF7FDN, Storm N7DSH, John K7SYS)
 - FT8 training at KJ7SEN QTH. Thanks Jim!
 - ARRL June VHF Contest (John K7SYS – anyone else?)
- Upcoming events
 - July 4th Parade support – Need ~ 12 people. Signup sheet going around.
 - Long bridge swim

BCARC Parade Map

Chk Pt 5 - Parade End

(B)


Chk Pt 4

(B)

Chk Pt 3

(B)

**Primary Freq.: 145.600 Simplex; Secondary Freq: 145.755 Simplex; Backup Repeaters:
HooDoo: 145.49 (+) ENC/DEC 136.5 Hz; Black Mtn: 146.96 (-) ENC/DEC 123 Hz**

 Net Control

Chk Pt 1

Parade Assy Area

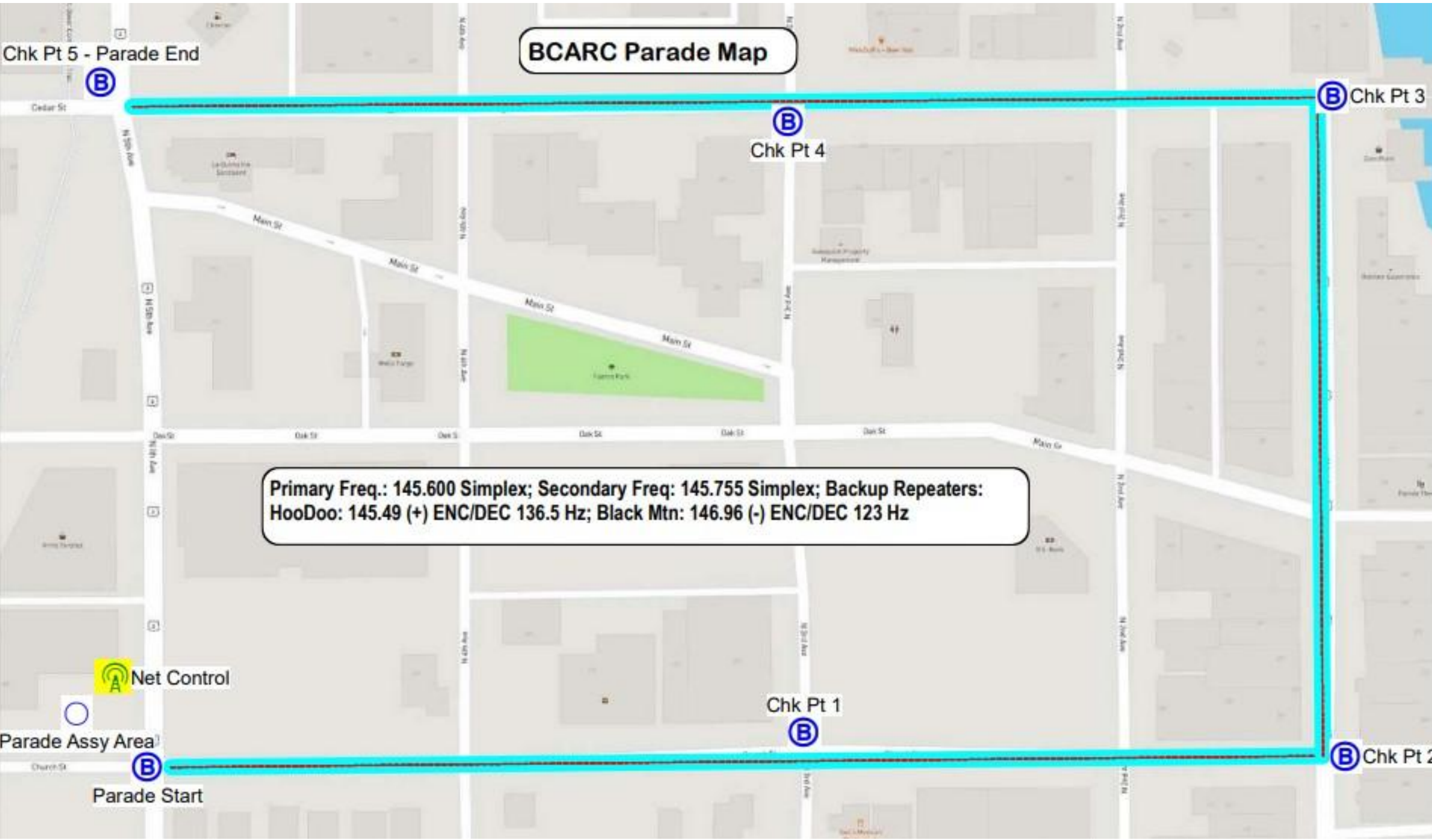
(B)

Chk Pt 2

(B)

Parade Start

(B)



Email & Hybrid Meetings

- This is the last month of individual emails – please join our groups.io page if you have not so already (about 40 out of 56 have joined)
- Effective with the July meeting we will begin hybrid meetings as a routine
 - Combination of live meeting plus Zoom stream
 - Zoom stream only available to paid up BCARC members
 - Login in name format (***First name, callsign***) matched against member file
 - Upside – may make attendance easier in the winter or for those with long drives
 - Downside – people who could attend don't miss in person comradery and hands on events

Breakfast at Connie's Café & Lounge
323 Cedar Street, Sandpoint, ID 83864
June 17, 2023
09:00 hrs.

Next Meeting
July 12, 2022
VFW Post, Sandpoint, ID
18:00 hrs. Informal Discussions and Eyeball QSO's
18:30 hrs. Meeting
Topic: *MeSH Networks & How They Work*
Scott Rasmus, KC3BFW



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CW Bingo!