

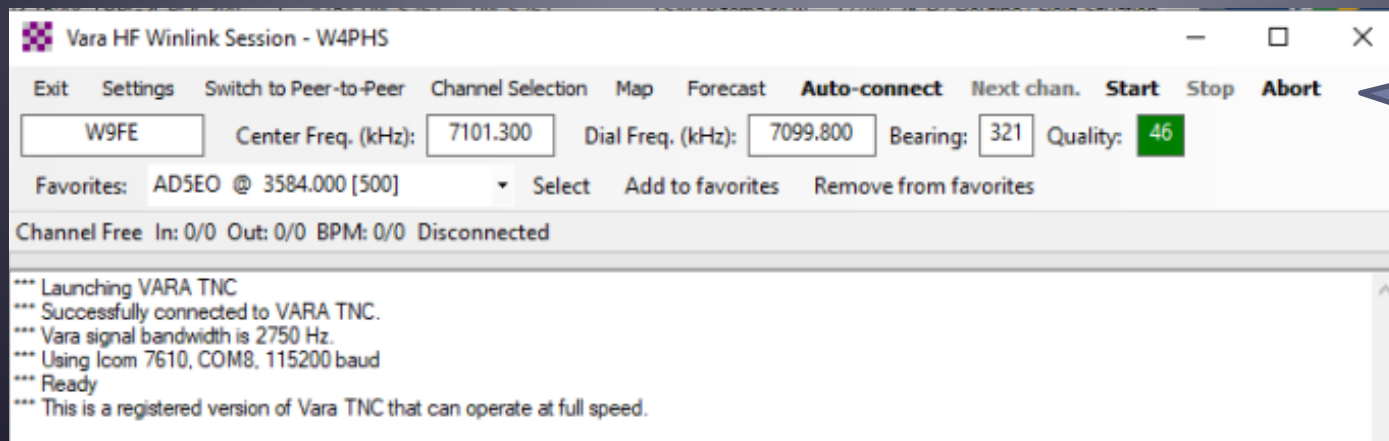
# Winlink Express Connection Options

Phil Sherrod – W4PHS / NCS398



# Five Ways to Select an RMS and Frequency

- Using HF channel list
- Using saved favorite RMS and frequencies
- Using RMS Map
- Using Propagation Forecast
- Using Auto-connect



Connection options are in top section of session screen

# Using HF Channel List

Click Channel Selection

My HF Winlink Session - W4PHS

Exit Settings Switch to Peer-to-Peer **Channel Selection** Map Forecast **Auto-connect** Next chan. Start Stop

W9FE Center Freq. (kHz): 7101.300 Dial Freq. (kHz): 7099.800 Bearing: 321 Quality: 57

Click a column heading to sort on that column

Double click to select RMS and frequency

HF Channel Selector

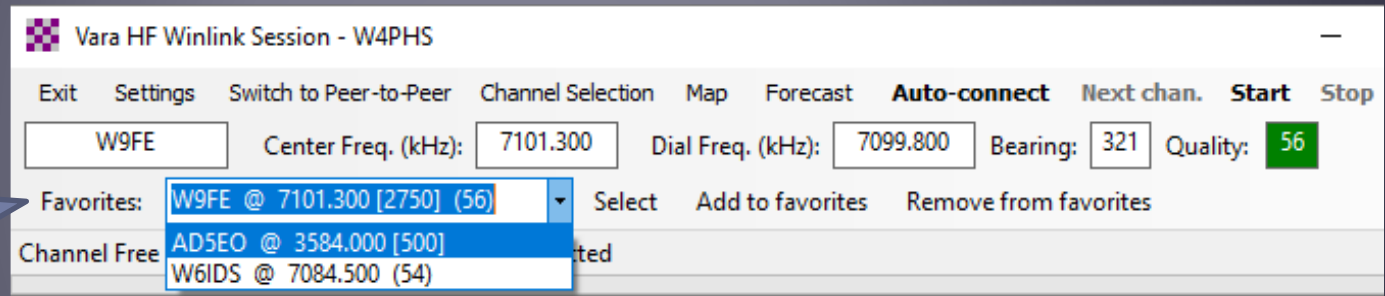
Exit Select Update Via Internet Update Via Radio Map Forecast SFI All RMS

Callsign	Frequency (kHz)	Mode	Grid Square	Hours	Group	Distance (mi)	Bearing (Degrees)	Path Reliability Estimate	Path Quality Estimate
KN4CCQ	7101.500	V2300	EM65QT	00-23	PUBLIC	17	148	96	96
K9KDJ	7102.400	V2750	EM67GX	00-23	PUBLIC	140	345	86	58
K9BBS	7102.500	V500	EM68SR	00-23	PUBLIC	188	005	87	58
K9KDJ	7064.000	V500	EM67GX	00-23	PUBLIC	140	345	86	58
N2GWK	7106.500	V500	EM77GU	00-23	PUBLIC	146	030	87	58
KF4LXS	7102.500	V2300	EM67GW	00-23	PUBLIC	137	345	86	57
W9FE	7101.300	V2300	EM59AA	00-23	PUBLIC	270	321	88	56
W9FE	7103.700	V2300	EM59AA	00-23	PUBLIC	270	321	88	56
KD7UHR	7108.500	V500	EM58BQ	00-23	PUBLIC	250	318	88	56
K4MSU	7102.500	V2300	EM56UO	00-23	PUBLIC	93	296	85	56
KD7UHR	7064.000	V500	EM58BQ	00-23	PUBLIC	250	318	88	56
KD7UHR	7101.500	V2750	EM58BQ	00-23	PUBLIC	250	318	88	56
KD7UHR	7103.500	V2750	EM58BQ	00-23	PUBLIC	250	318	88	56

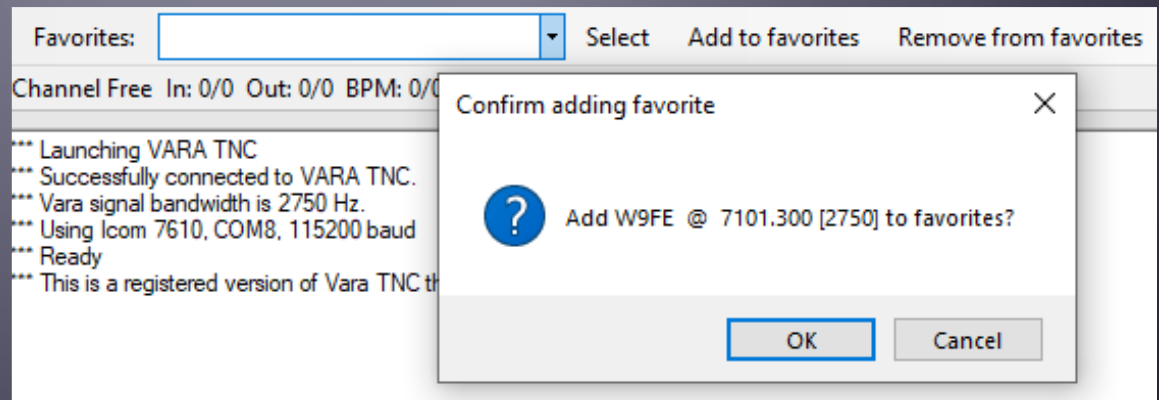
# Saving and Using Favorite Channels

- You can save your favorite channels and select them easily. You can have some favorites for day and others for night.

Select from drop-down list of favorite channels

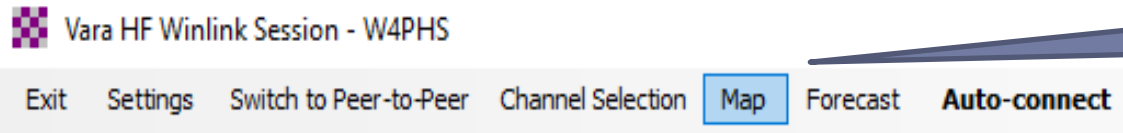


Click Add/Remove to manage list of favorite channels

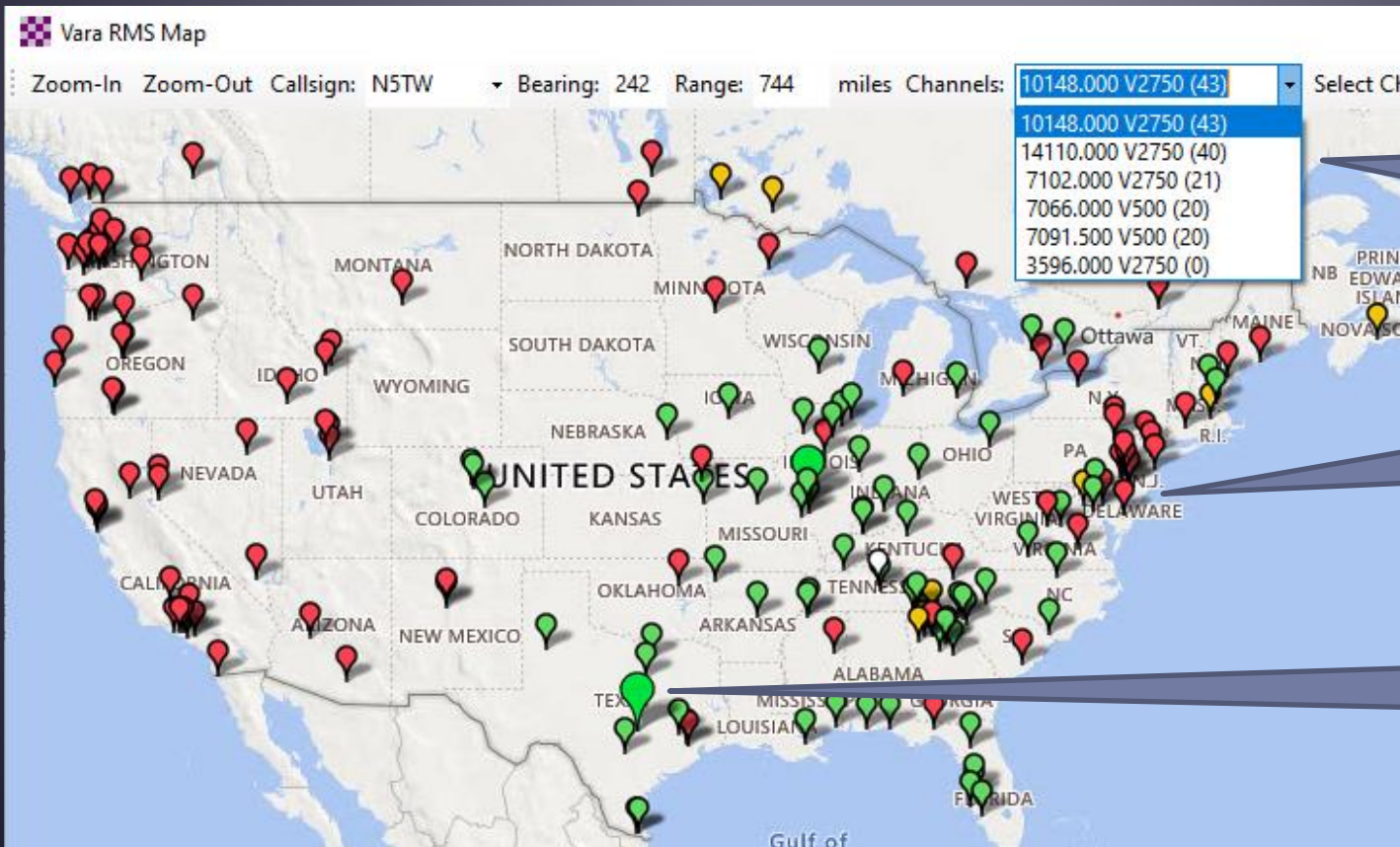




# Using RMS Map to Select Channels



Click "Map" to open RMS map

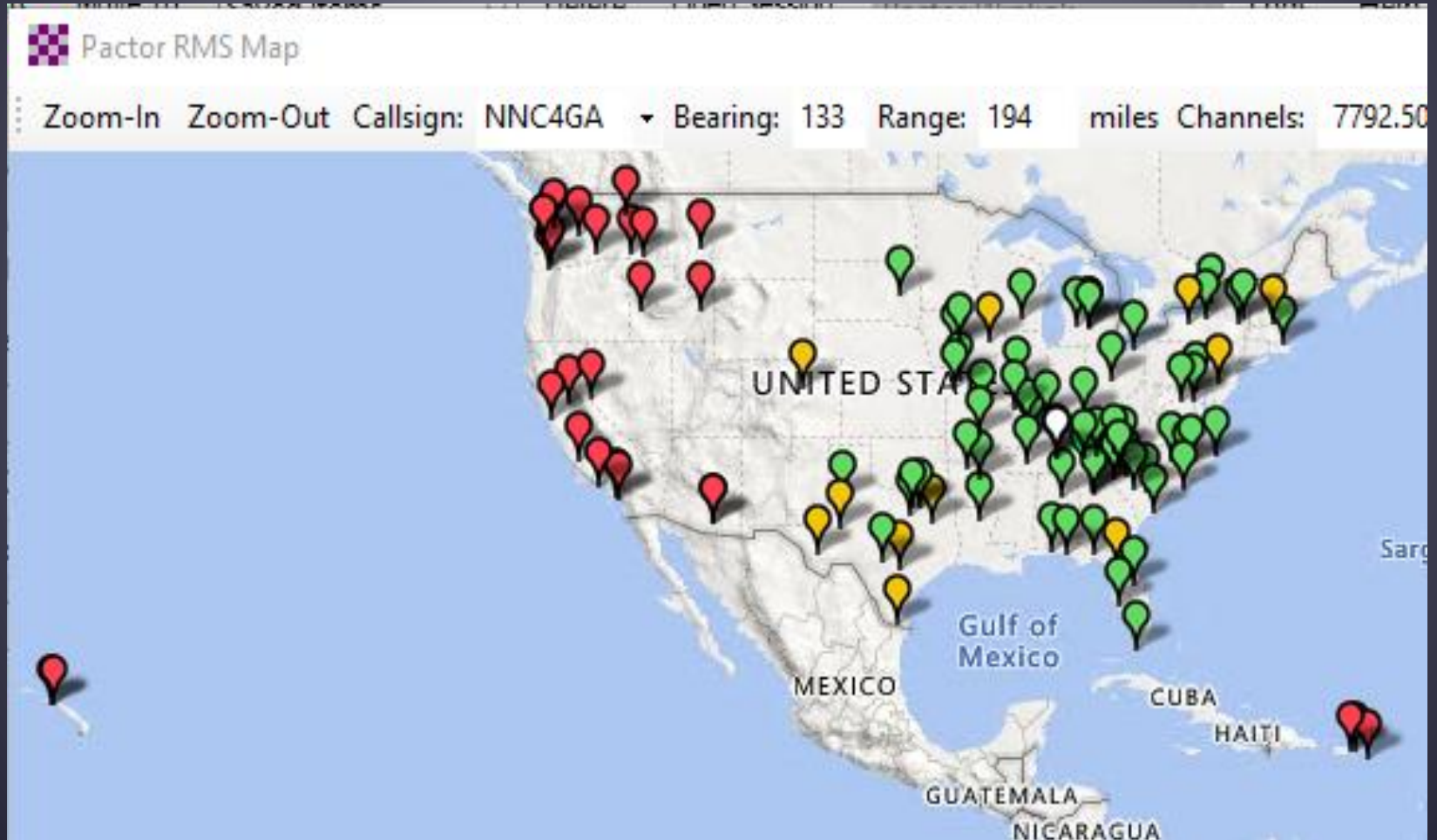


N5TW Vara channels

Marker colors indicate propagation

N5TW selected (large marker)

# SHARES Pactor RMS Map



# Mapping Location of Message Sender

- Select a message, and click toolbar icon to show map marking location of message sender.



Location: 38.770833N, 121.375000W (GRID SQUARE)



# Using Propagation Forecast Screen

Vara HF Winlink Session - W4PHS

Exit Settings Switch to Peer-to-Peer Channel Selection Map **Forecast** Auto-connect

Propagation Forecast for N5TW

Hour Local	Hour UTC	3596.000	7066.000	7091.500	7102.000	10148.000	14110.000
19	00	26	43	43	43	44	46
20	01	37	44	44	44	45	46
21	02	40	43	43	43	45	39
22	03	38	43	43	43	44	28
23	04	36	42	42	42	40	12
00	05	35	42	42	42	37	2
01	06	35	42	42	42	36	0
02	07	35	42	42	42	36	0
03	08	35	42	42	42	36	0
04	09	36	42	42	42	34	0
05	10	38	43	43	43	31	0
06	11	39	43	43	43	34	0
07	12	35	42	42	42	46	0
08	13	20	40	40	40	45	0
09	14	5	38	38	38	44	39
<b>10</b>	<b>15</b>	0	20	20	21	43	40
11	16	0	15	16	16	41	40

Click "Forecast" to open propagation forecast screen

High SFI, so many good frequencies

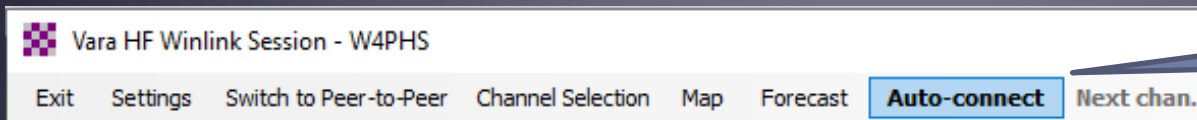
Grid showing each hour of day, each channel, and estimated propagation.

Click a cell in a column to select that frequency

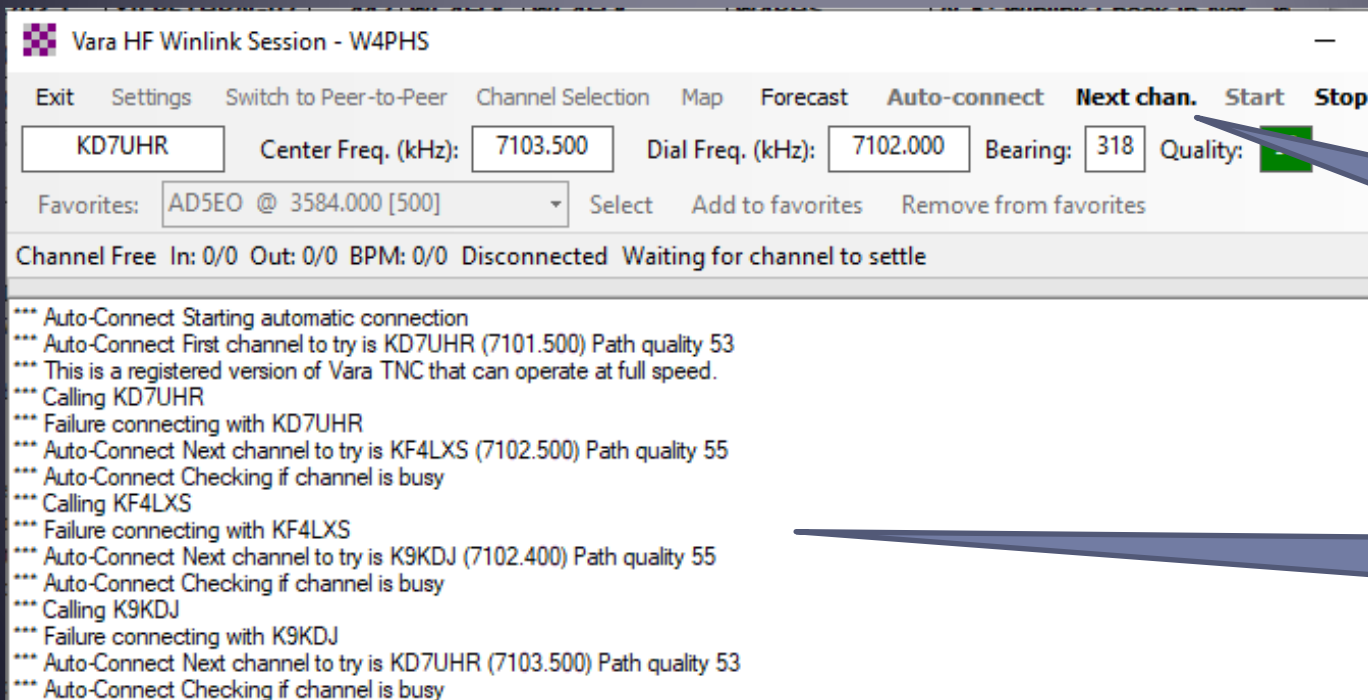
Current hour highlighted



# Using Auto-Connect



Click "Auto-connect" to start



Click Stop or Abort to stop Auto-connect

Click "Next chan" to force skip to next channel

Dummy load was used to force many tries

# Auto-Connect Parameters

- On session screen, click Settings/Auto-connect setup

**Auto-Connect Settings**

**Options for Automatic Connection Feature**

Minimum Factor level: P3

Minimum Vara bandwidth: 2300

Minimum path quality: 40

Minimum distance away: 100 miles

Seconds for status to settle: 2

Seconds not busy: 2

**Allowed Frequency Ranges**

Specify one range per line in kHz  
XXXXX.XXX-XXXXX.XXX

3000-14350

**Excluded RMS**

Specify one callsign per line

Save Cancel

# Auto-Connect Behind the Scenes

- Channel connection order is based on more than propagation quality estimate.
- RMS saved in favorites get priority boost
- Success/Failure connection history
- Relative speed of transfer compared to other RMS you've connected to.
- Only the best two channels for an RMS are tried
- If a busy frequency is detected, no other channels within +/- 500 Hz will be tried.
- Constraints such as service code, minimum distance, blocked RMS, Pactor level, Vara bandwidth, radio-only capable.

# Propagation Calculation Parameters

- You can adjust parameters used to compute propagation estimates.
- On main screen click Settings/Propagation Calculation Parameters

Propagation Parameters

Propagation Calculation Parameters

Radiated power (watts): 50

Min. takeoff angle (degrees): 15

Multipath delay (ms): 0.1

Multipath tolerance (dB): 0.5

Local noise at 3 MHz (-dBw/Hz): 145

Include MUF

SFI change requiring prop. update: 10

Load Default Values

Save Cancel

Minimum takeoff angle for signal.  
Reduce if you're on a boat or  
mountain top.

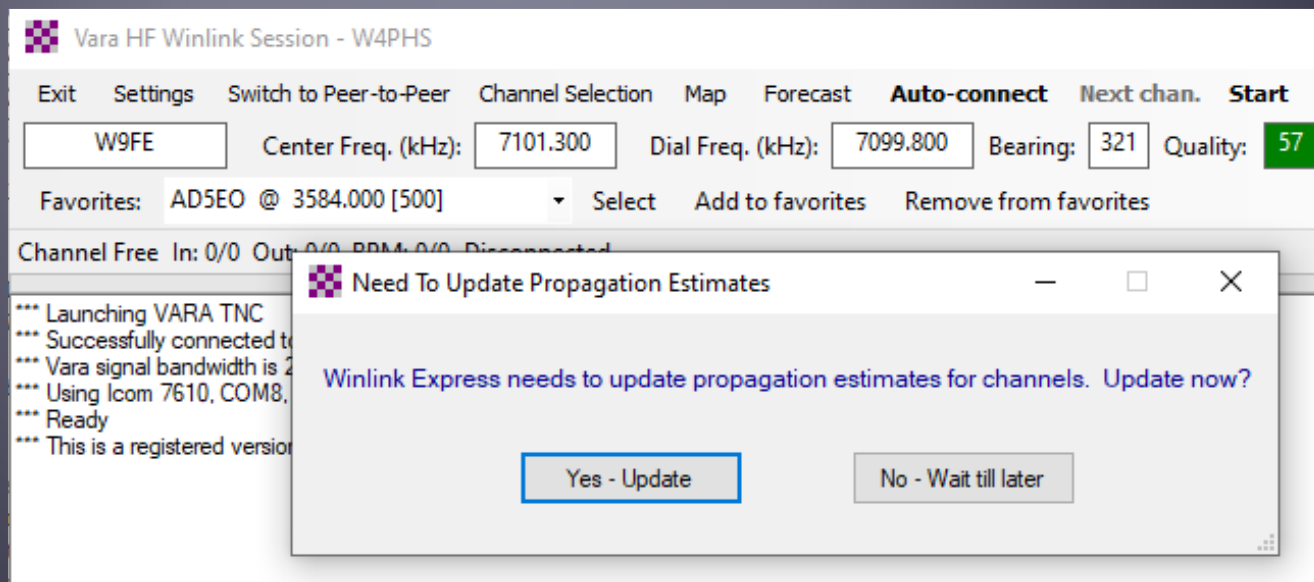
Negative dB, so larger value = quieter  
environment

How often it will bug you to  
recompute propagation estimates



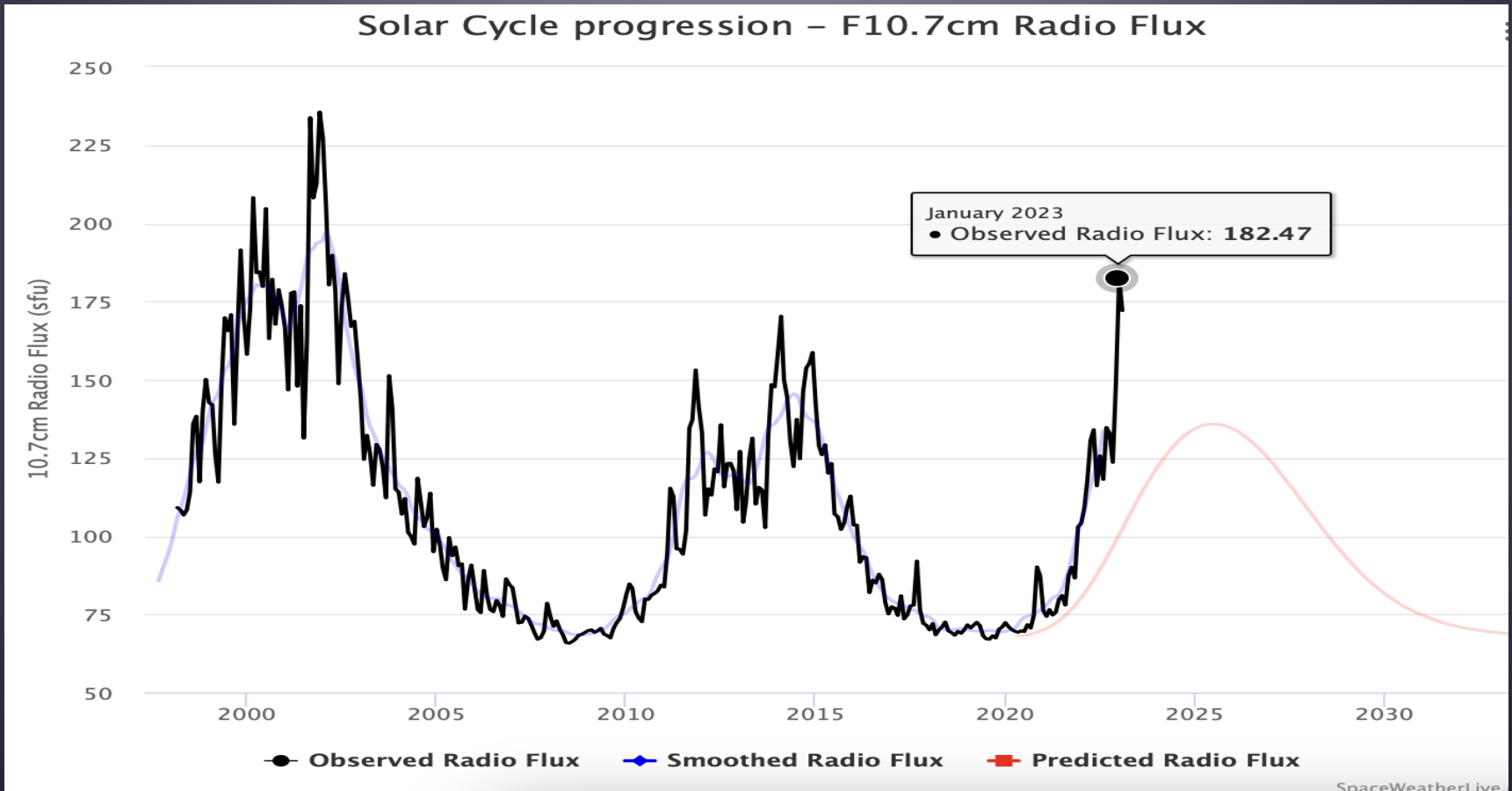
# Recomputing Propagation Estimates

- If SFI changes more than a specified amount or propagation parameters are changed, Express will prompt you to recompute propagation estimates.
- SFI can be obtained via Internet or from Trimode greeting.



# Eleven Year Sunspot Cycle

- Excellent SFI = More available channels





- Winlink team:
  - Phil Sherrod, W4PHS (Developer and BoD)
  - Steve Waterman, K4CJX (Administrator and BoD)
  - Winlink Development Team
- Winlink web site: [www.winlink.org](http://www.winlink.org)
- White papers about Winlink: [www.qrz.com/db/W4PHS](http://www.qrz.com/db/W4PHS)
- Support group:  
<https://groups.google.com/forum/#!forum/winlink-programs-group>