

Why You Need **Winlink** in Your EmComm Toolbox

Allbemarle Amateur
Radio Club

Presented by Greg Butler, KW6GB
(13 October 2020)



21st Century Communications

Modern Communications Channels

□ POTS



□ Cellular telephones



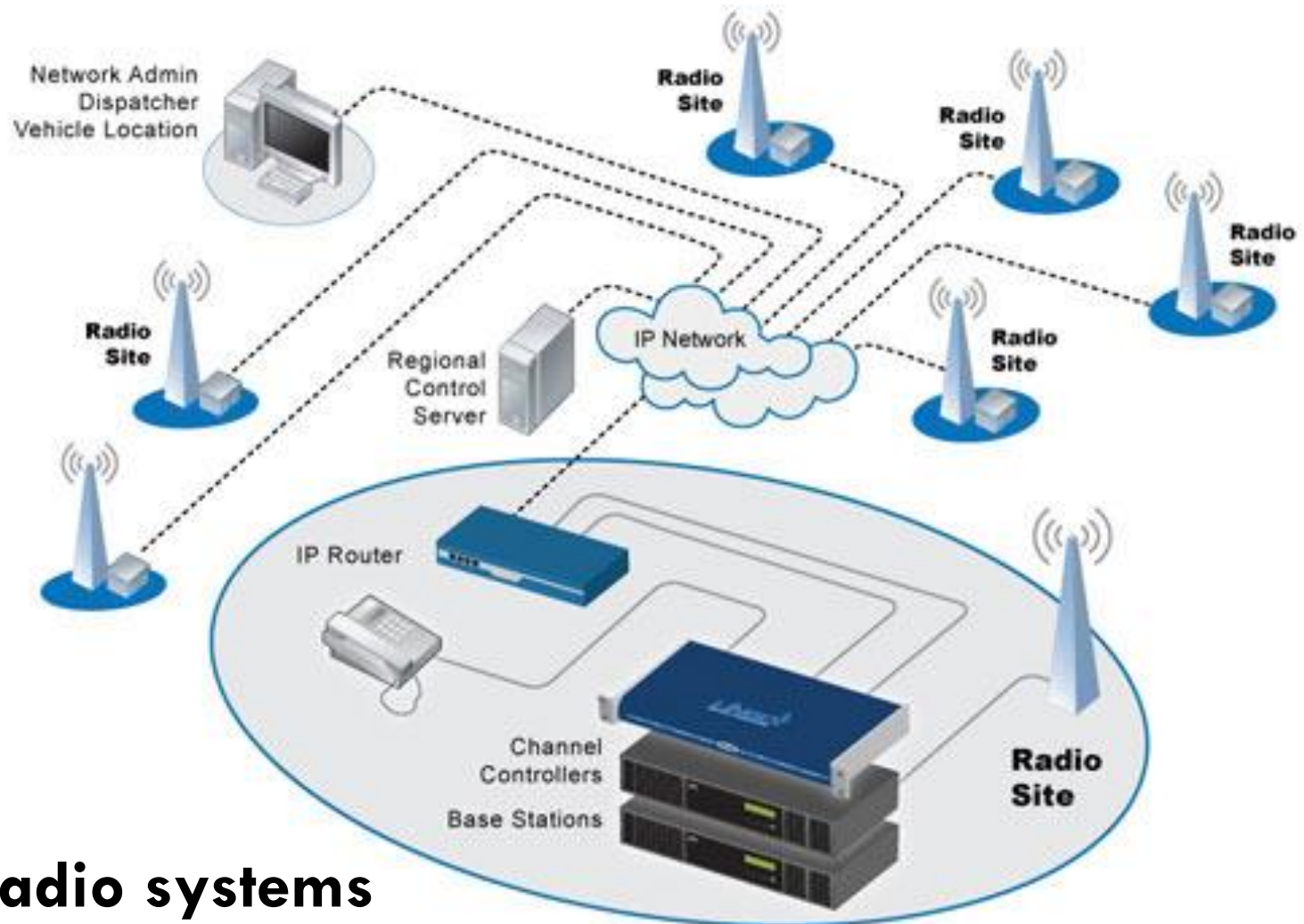
□ Satellite telephone

Modern Communications Channels

□ Land Mobile Radio System



Modern Communications Channels



□ **Trunked radio systems**

Modern Communications Channels

The screenshot shows a web browser window displaying the WebEOC interface. The address bar shows the URL <https://webeoc.vdem.virginia.gov/eoc7/controlpanel.aspx>. The page title is "07. Local Situation Report - DAT...". The main heading is "Local Situation Report" with a subheading "VDEM - 2020 COVID-19". There is a green button labeled "+ Update Situation Report" and a dropdown menu labeled "Actions".

Originator Information

Position:	Warren County
Entered By:	Greg Butler
Phone:	540-551-5253
Email:	safercitizen@gmail.com

Agency Overview

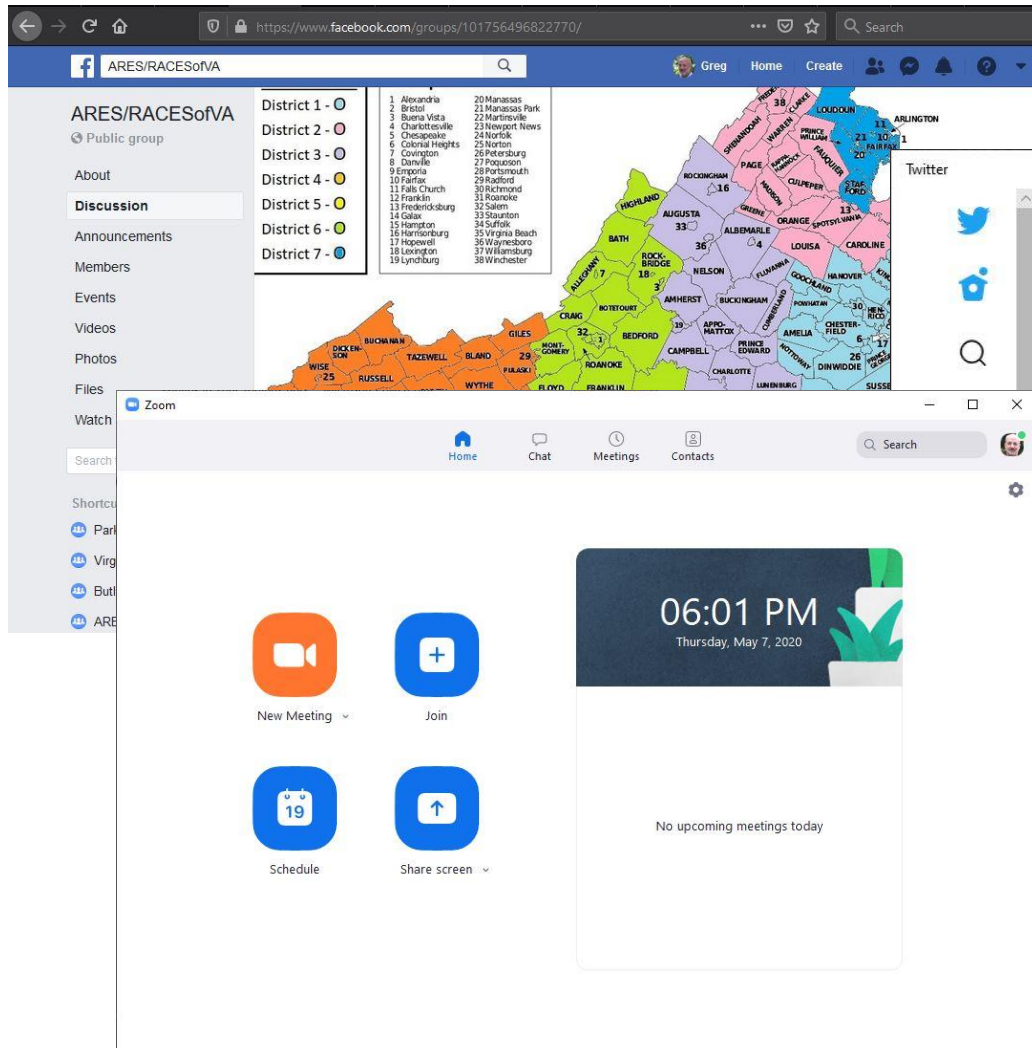
Sitrep Status:*	Update
Sitrep #:*	45
Jurisdiction:*	Warren County
VDEM Region:	Region II
As of:*	05/07/2020 15:06:32

Page 1 of 1 ☐ Disable Refresh? ©2019 ESI Acquisition, Inc. WebEOC

□ WebEOC

□ VHASS similar

Modern Communications Channels



□ Social Media



□ Even Zoom

Modern Challenges

X POTS

X Cellular telephones

X Satellite telephones

X LMRS

X Trunked systems

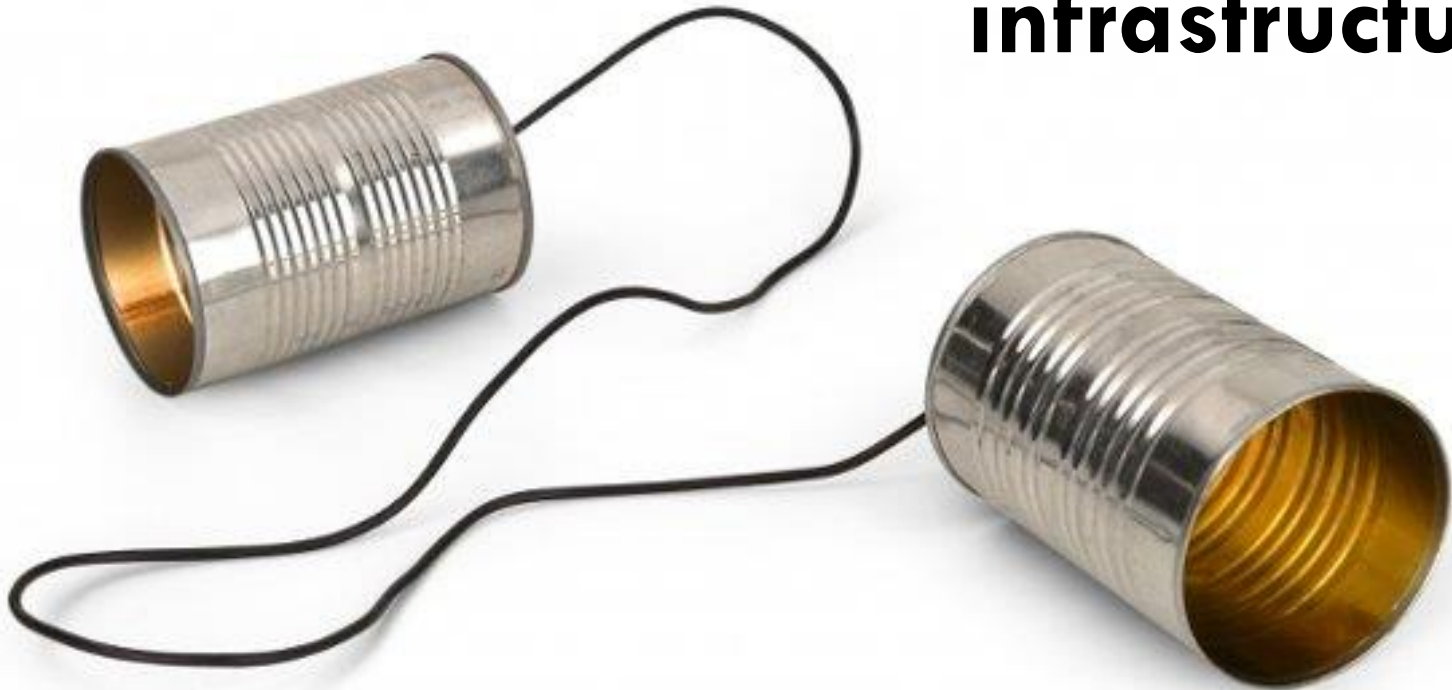
X WebEOC

X VHASS

X Social Media (and Zoom)

Some Solutions

□ **Minimize
infrastructure**



□ **Minimize potential points of failure**

Stepping It Up a Notch

□ Amateur Radio Tools

- Voice

- CW

- Other digital modes

 - PSK

 - Olivia

 - Many others.

The Right Tool for the Job

- **VHF/UHF, repeaters, HF**
- **Voice – best for tactical**
- **CW – spectral efficiency**
- **Digital – best for logistical**
 - ▣ **Beyond radiograms**
 - ▣ **Error correction or not**
 - ▣ **Synchronous/asynchronous**
 - ▣ **One-to-many**
 - ▣ **One-to-One.**

Another Amateur Radio Tool



- ❑ **NOT a silver bullet**
- ❑ **Numerous advantages**



Winlink's BASIC Features

Winlink Features

- ❑ **Familiar Interface**
- ❑ **Error-free**
- ❑ **Forms for served agencies**
- ❑ **Internet... or not**
- ❑ **Bi-directional with non-hams**
- ❑ **Let's look at these.**

Winlink's Familiar Interface

Winlink Express 1.5.32.0 - KW6GB

KW6GB Settings Message Attachments Move To: Saved Items Delete Open Session: Packet Winlink Logs Help

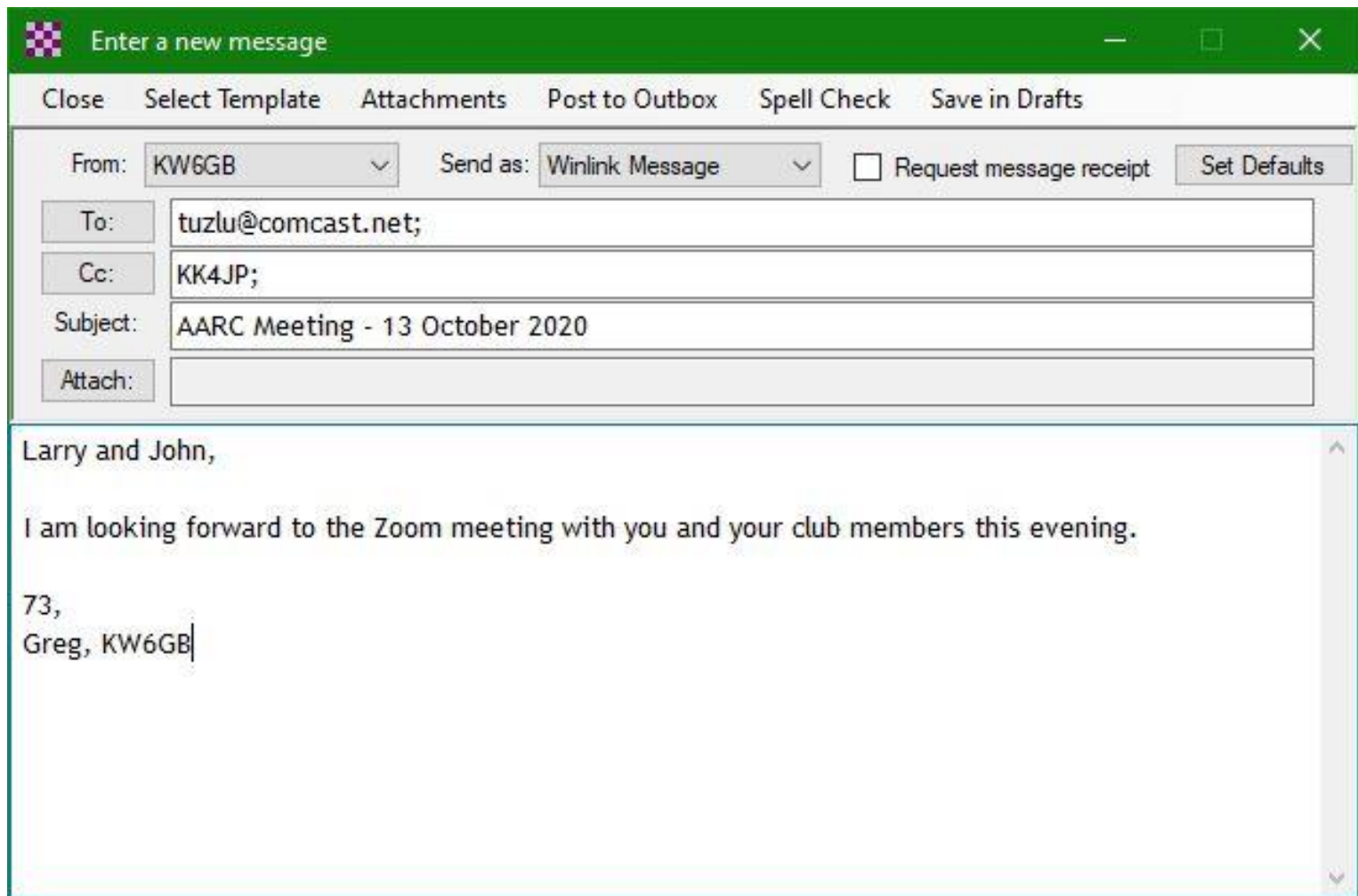
No active session...

System Folders	Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
Inbox (0 unread)	2020/10/07 11:50	L4ZWAJDCXY9X	241	K4DJG	K4DJG	KW6GB	Winlink Wednesday Check-In
Read Items (24)	2020/10/07 11:52	XACUP5HUDE2S	240	K4DJG	K4DJG	KW6GB	Winlink Wednesday Check-In
Outbox (0)	2020/10/07 11:34	WOGP8OEQWB...	243	K4DJG	K4DJG	KW6GB	Winlink Wednesday Check-In
Sent Items (133)	2020/10/07 21:40	5XJKE5HPQO3N	279	K4DJG	K4DJG	KW6GB (P2P)	Winlink Wednesday Check-In
Saved Items (230)	2020/10/07 11:00	FR9MDNB9L6LY	243	K4DND	K4DND	KW6GB	Winlink Wednesday Check-In
Deleted Items (605)	2020/10/07 23:31	YL05IAX71B7O	255	K4DND	K4DND	KW6GB (P2P)	Winlink Wednesday Check-In
Drafts (8)	2020/10/07 11:44	RVY07449BGZP	295	K4EBY	K4EBY	KW6GB (P2P)	//wl2k VA ARES/RACES Winlink Net Check
Personal Folders	2020/10/08 00:10	OP7RM0PHQ49K	242	K4EKB	K4EKB	KW6GB (P2P)	Winlink Wednesday Check-in
DisasterTest (0)	2020/10/07 22:04	WYLI4HAHEUQH	280	K4FZE	K4FZE	KW6GB	WinLink Wednesday check in
Incorrect (0)	2020/10/08 00:19	DL1Y21ZVHM/K1	232	K4H4Y	K4H4Y	KW6GB	Winlink Wednesday Check-In
RMSHold (1)							
ROTrouble (94)							
Temp (7)							
Global Folders							
Contacts							
GREG							
KW6GB							

Message ID: YL05IAX71B7O
Date: 2020/10/07 23:31
From: K4DND
To: KW6GB
Source: K4DND
P2P: True
Subject: Winlink Wednesday Check-In

K4DND, Dave, Barboursville, Albemarle, VA, (P2P)
1930LT, 71F, light haze, winds calm

Winlink Message Creation



The screenshot shows a software window titled "Enter a new message" with a green header bar. Below the header is a menu bar with options: "Close", "Select Template", "Attachments", "Post to Outbox", "Spell Check", and "Save in Drafts". The main form area contains fields for "From:", "Send as:", "To:", "Cc:", "Subject:", and "Attach:". The "From:" field is set to "KW6GB". The "Send as:" field is set to "Winlink Message". The "To:" field contains "tuzlu@comcast.net;". The "Cc:" field contains "KK4JP;". The "Subject:" field contains "AARC Meeting - 13 October 2020". The "Attach:" field is empty. To the right of the "Send as:" field is a checkbox labeled "Request message receipt" which is unchecked, and a "Set Defaults" button. Below the form fields is a large text area containing the message body. The message body text is: "Larry and John," followed by a blank line, "I am looking forward to the Zoom meeting with you and your club members this evening." followed by a blank line, "73," followed by a blank line, and "Greg, KW6GB" with a cursor at the end. A vertical scrollbar is on the right side of the text area.

Enter a new message

Close Select Template Attachments Post to Outbox Spell Check Save in Drafts

From: KW6GB Send as: Winlink Message ☐ Request message receipt Set Defaults

To: tuzlu@comcast.net;

Cc: KK4JP;

Subject: AARC Meeting - 13 October 2020

Attach:

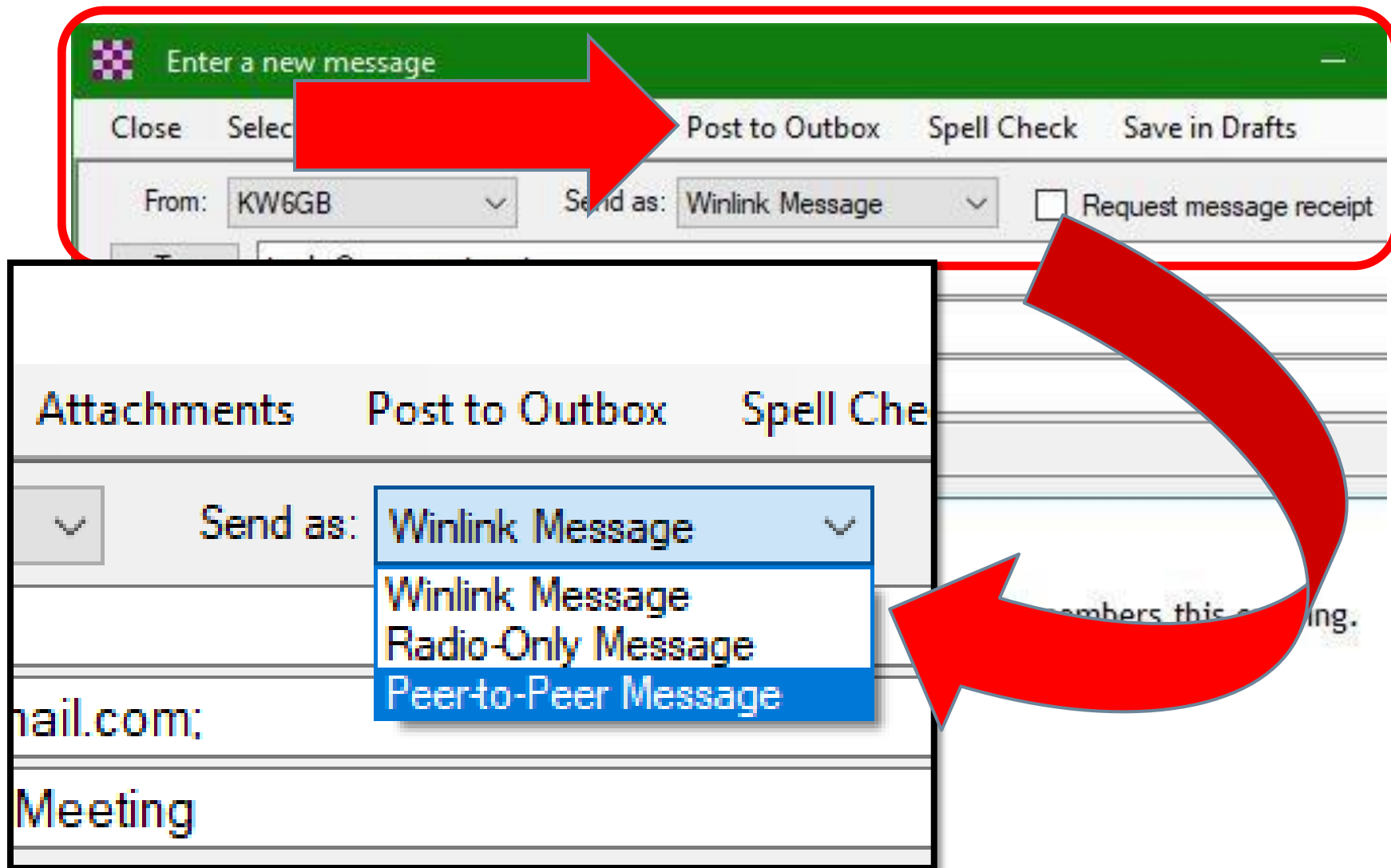
Larry and John,

I am looking forward to the Zoom meeting with you and your club members this evening.

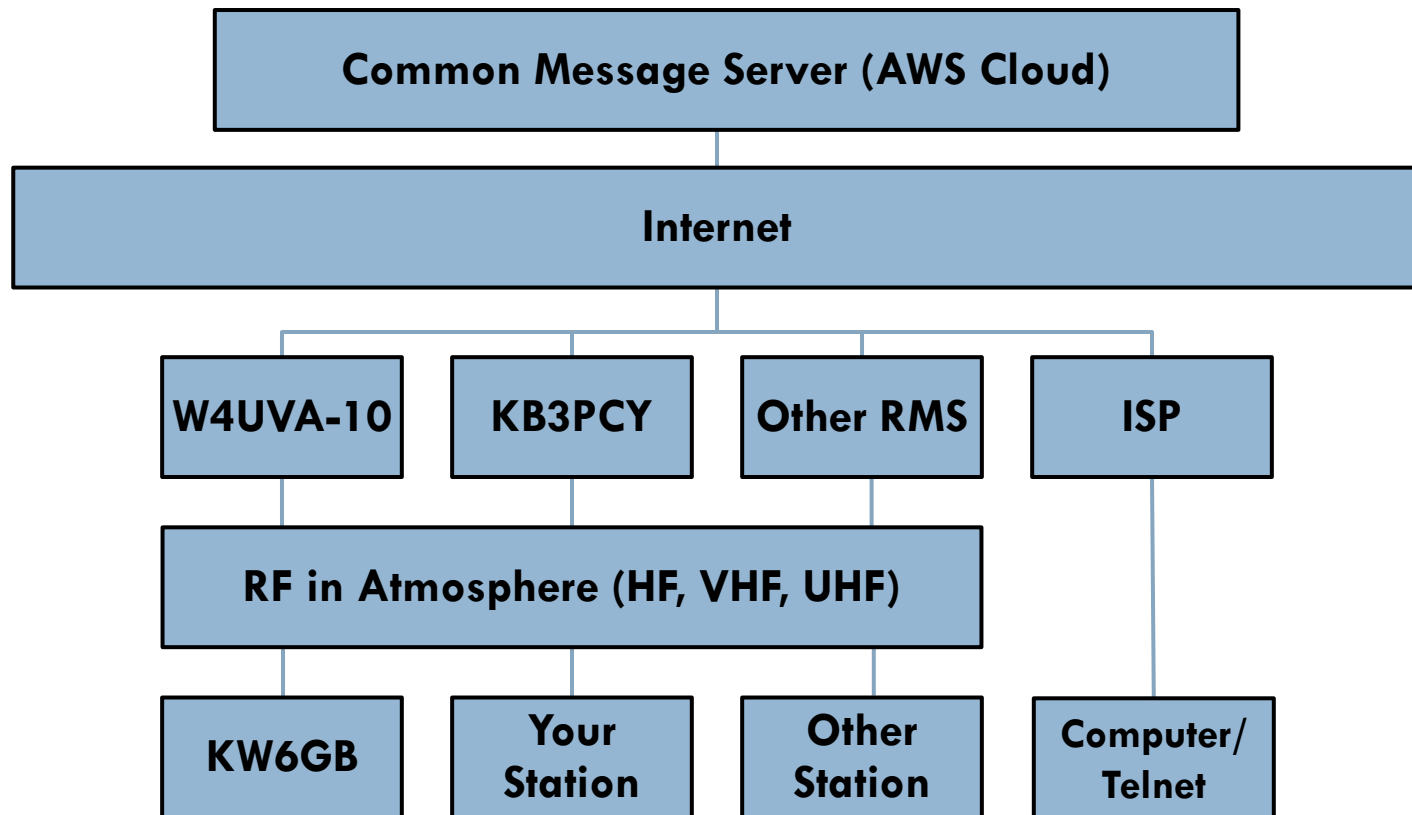
73,

Greg, KW6GB

No “Send” Button?



Winlink System Overview



Choosing a Session Type

The screenshot displays the Winlink Express interface. On the left, a sidebar shows folders like 'System Folders' (Inbox, Outbox, etc.) and 'Contacts' (GREG, KW6GB). The main window has a table with columns 'Call', 'Recipient', and 'Status'. A dropdown menu is open over the 'Open Session:' label, listing various session types. A red arrow points from the 'Vara Radio-only' dropdown in the background to the 'Packet Winlink' option in the foreground menu.

Open Session:

- Packet Winlink
- Packet Winlink
- Pactor Winlink
- Robust Packet Winlink
- Winmor Winlink
- Ardop Winlink
- Vara HF Winlink
- Vara FM Winlink
- Iridium GO Winlink
-
- Packet P2P
- Pactor P2P
- Robust Packet P2P
- Winmor P2P
- Ardop P2P
- Vara P2P
- Vara FM P2P
- Telnet P2P
-
- Pactor Radio-only
- Winmor Radio-only

Open Session: Vara Radio-only

Call	Recipient	Status
B	KW6GB	esday Che
X	KW6GB	esday Che
JHC	KW6GB	esday Che
	KW6GB	esday Che
	KW6GB	esday Che
JSN	KW6GB	esday Che
HW	KW6GB	esday Che
JSN	KW6GB	esday Che
JSN	KW6GB	esday Che
UF	KW6GB	esday Che

members this evening.

Starting a Session

The screenshot shows the Winlink Express 1.5.28.1 - KW6GB application window. The 'Open Session' button is highlighted with a red arrow. The 'Packet Winlink Session' dialog box is open, showing the connection type set to 'Direct' and the call sign 'WA4JN-10'. The dialog also displays the connection script and the status of the session.

Winlink Express 1.5.28.1 - KW6GB

Menu: Settings Message Attachments Move To: Saved Items Delete Open Session: Packet Winlink Logs Help

No active session...

Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
2020/05/08 19:27	W6QQ41D64X7U	5775	KW6GB	KW6GB	WA4WC	Part 97 Text (partial)

Packet Winlink Session

Exit Settings Switch to Peer-to-Peer Session Channel Selection 1200 Baud **Start** **Stop**


Connection type: Direct WA4JN-10 Via ,

Connection script: Edit script Add script Remove script

Time to next Autoconnect = Disabled

*** Starting WL2K packet session...
*** Initializing KISS over TCP Host 127.0.0.1 Port 8100
*** Initialization complete
*** Ready

Session in Progress

 Packet Winlink Session

Exit

Settings

Switch to Peer-to-Peer Session

Channel Selection

1200 Baud

Start

Stop

Connection type:

Direct

WA4JN-10

Via

,

Connection script:

Edit script

Add script

Remove script

Received: 319 Sent: 655 Time to next Autoconnect = Disabled

CMS via WA4JN >

:FW: KW6GB NWR-SUPPORT[70022943

[RMS Express-1.5.28.1-B2FHM\$]

:PR: 95170607

: WA4JN-10 DE KW6GB (FM08UV)

FC EM W6QQ41D64X7U 13804 5700 0

F> 16

:PM: KW6GB Z3O8HWIVNER2 998 KM4YC@winlink.org VHF P2P NET

:PM: KW6GB JUP2ESJVHO4G 1182 K8EAF@winlink.org OH Winlink Net Roster

:PM: KW6GB HOA3HC956NFJ 2236 KC2OQV@winlink.org Re: Winlink Wednesday Roster Published (6 May 2020, Episode #191)

FS Y

*** Sending W6QQ41D64X7U.

Error-Free

- ❑ **Get it all, get it right**
- ❑ **Or not at all**
- ❑ **Interference, atmospheric, etc.**



Winlink's BIG Advantages

First Big Winlink Advantage

GENERAL MESSAGE (ICS 213)		
1. Incident Name (Optional): SAMPLE INCIDENT		
2. To (Name and Position): WATCH OFFICER, VDEM		
3. From (Name and Position): G. BUTLER, COMMUNICATIONS UNIT LEADER, WARREN COUNTY EOC		
4. Subject: SITUATION STATUS #1	5. Date: 10/27/2017	6. Time: 14:00L
7. Message: *** THIS IS ONLY A DRILL *** MAJOR FLOODING OCCURRING AT CONFLUENCE OF N AND S FORKS OF SHENANDOAH RIVER N OF FRONT ROYAL. SECONDARY ROADS IN IMMEDIATE AREA IMPASSABLE. APPROX 30 RESIDENTS TRAPPED. SWIFTWATER RESCUES IN PROGRESS. PERSONS CURRENTLY IN SHELTERS: WARREN COUNTY STATION #1: 25 WARREN COUNTY STATION #6: 10 NEXT REPORT AT 1600 UNLESS CONDITIONS REQUIRE SOONER. NO REPLY NECESSARY.		
8. Approved by: Name: G. BUTLER Signature: _____ Position/Title: COMMS LEADER		
9. Reply:		
10. Replied by: Name: _____ Position/Title: _____ Signature: _____		
ICS 213	Date/Time: Date	

- ❑ **Attachments**
- ❑ **MS Word document**
 - ▣ **74 kB attachment**
- ❑ **PDF document**
 - ▣ **107 kB attachment.**

Winlink Forms for Served Agencies

General Message (ICS 213)		
1. Incident Name: VOPEX 2018 Msg #: KW6GB-118		
2. To (Name/Position): Andrea Clontz, Emergency Manager, Isle of Wight County		
3. From (Name/Position): Greg Butler, KW6GB, Warren County EmComm Leader		
4. Subject: Mutual Aid Availability	5. Date: 2018-9-12	6. Time: 08:01L
7. Message Warren County ARES/RACES reports 4 amateur radio operators on standby for mutual aid deployment to District 10 upon your request. Roster available for RACES registration if needed. Approximate lead/travel time is 5 hours. Notify this station via Winmor P2P on 3582 kHz (dial, USB) until 1000L, or via voice or text at 540-551-5253 anytime.		
8. Approved by: Greg Butler, KW6GB		Position / Title: Warren County EmComm Leader
9. Reply: <div></div>		

- ❑ **Winlink HTML attachment**
 - ▣ **1.2 kB attachment (including message).**

Second Big Winlink Advantage

- **Internet... or not**
- **RMS Transfer**
 - ▣ **End user to gateway to Internet to gateway to end user (asynchronous)**
- **Peer-to-Peer**
 - ▣ **End user to end user (synchronous).**

Third Big Winlink Advantage

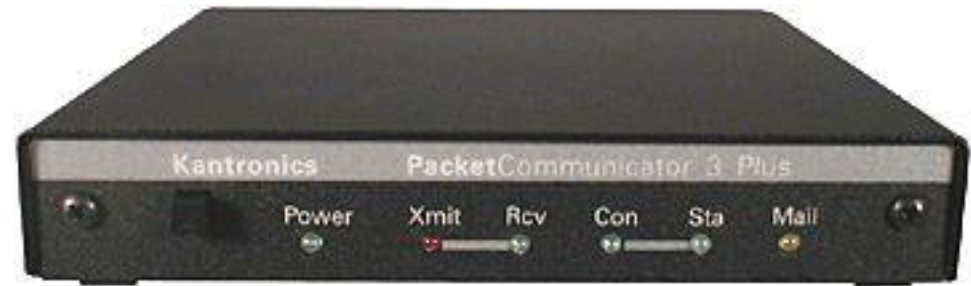
- **Bi-directional with non-hams**
- **No ham at destination? No problem.**
 - **VDEM when radio room unmanned**
 - **Governor's office**
 - **End user to gateway to Internet to end user (asynchronous)**
 - **Safe and well to out-of-state family**
- **No violation of Part 97.**



Winlink: What Do I Need

Software/Hardware Requirements

- ❑ **Winlink Express**
(free, mostly)
- ❑ **Computer**
(Windows 10)
- ❑ **Interface (Built-in, TNC, Signalink, other)**



Optional Hardware



- For maximum available speeds:
 - PACTOR modem
- Alternate:
 - VARA
(“Poor Man’s PACTOR”).

Configuration Variables

- **Way too many to discuss tonight**
- **Google Groups:**
 - **“Winlink Programs Group”**
 - **“Winlink_For_EmComm”**
- **Other experienced users.**



Now What?

Getting, Staying Competent

- ☐ **Use Winlink on a regular basis**
 - ☐ **Be an Elmer**
 - ☐ **And...**
-
- ☐ **Join Winlink Wednesday**

Participant Map, 7 October 2020

WW Virginia Stats

#213 -- 10/07/2020

Type	Total
RMS or P2P:	135
Plotted:	135
All RMS:	113
RMS only:	77
All P2P:	58
P2P only:	22
Both RMS & P2P:	36
Weather:	120
Attachments:	0

Map

Satellite

Placemarkers

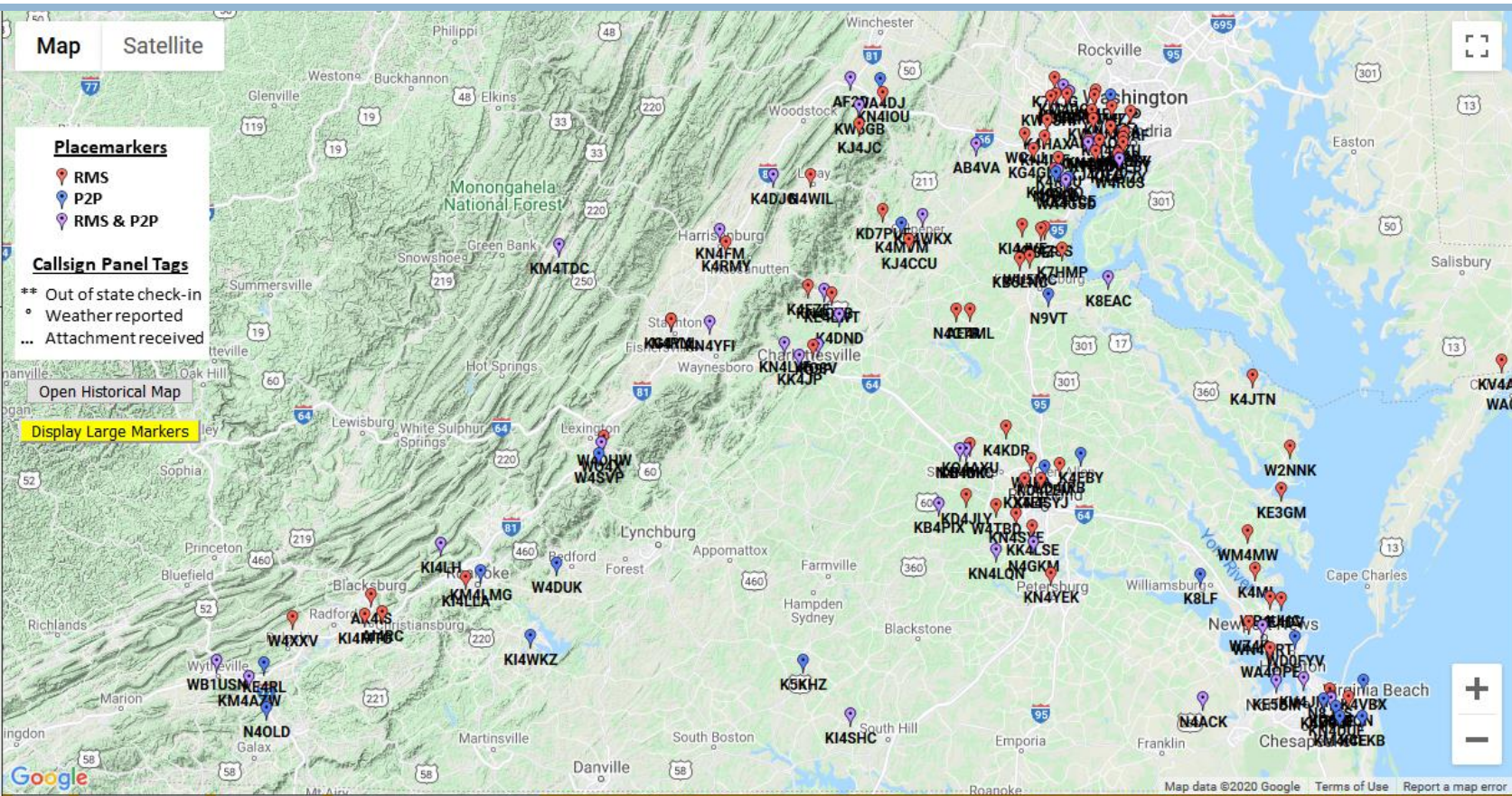
- RMS
- P2P
- RMS & P2P

Callsign Panel Tags

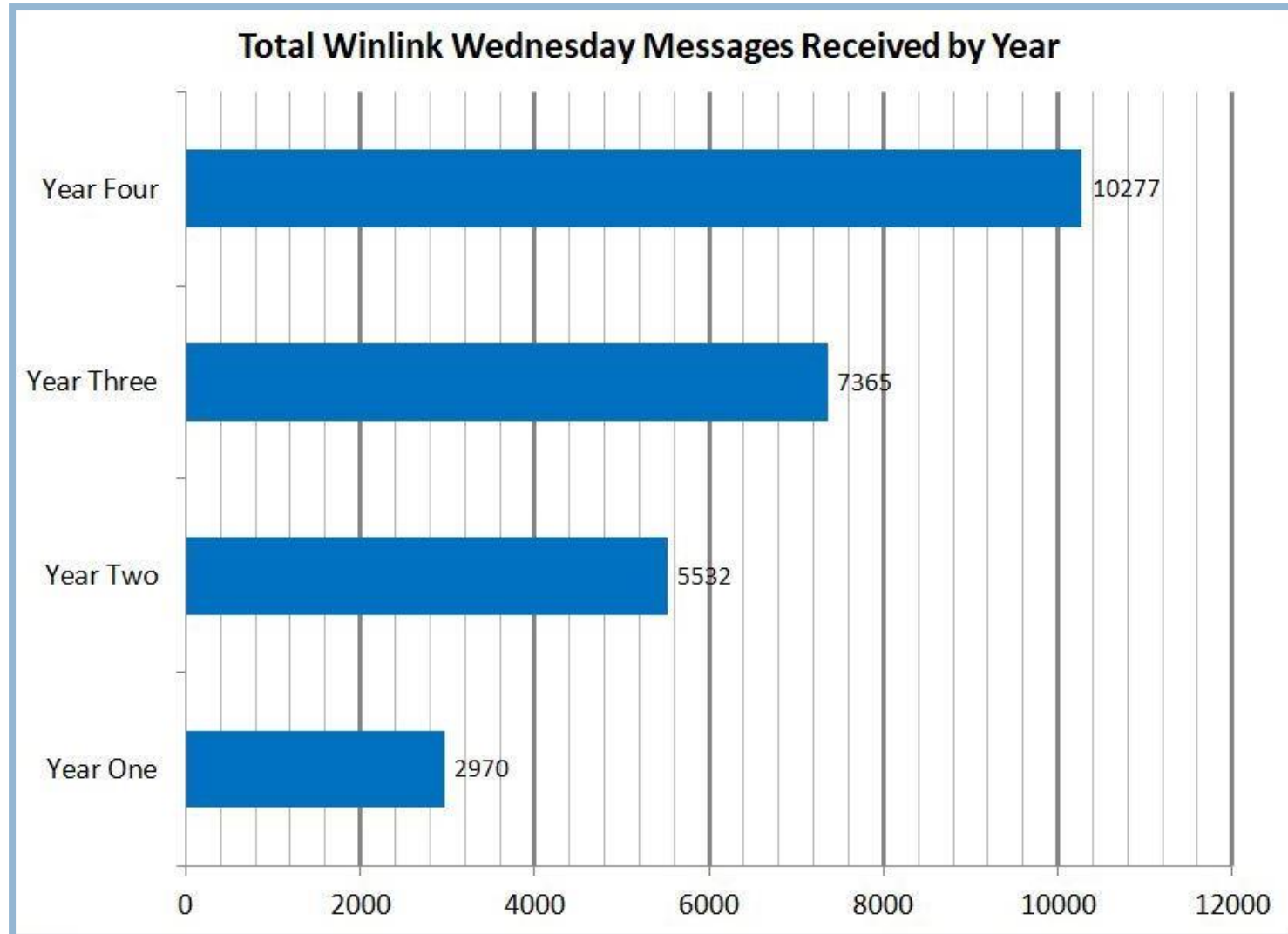
- ** Out of state check-in
- Weather reported
- Attachment received

Open Historical Map

Display Large Markers



Winlink Wednesday History



Questions?


<https://winlinkwednesday.net>

Solar-Terrestrial Data
11 Oct 2020 2243 GMT
SFI: 72 SN: 26
A-Index: 5
K-Index: 1
X-Ray: A1.3
304A: 95.0 @ SEM
Calculated Conditions

Band	Day	Night
80m-40m:	Fair	Good
30m-20m:	Fair	Fair
17m-15m:	Poor	Poor
12m-10m:	Poor	Poor
Signal Noise: S0-S1		

Click to Install Solar Data On your Web Site
<http://www.winlink.com>
Copyright Paul L. Herrman 2010

Home of the Original



QRZ call sign lookup:

Winlink Wednesday
Current P2P dial frequency:

Off the Air

Current Week's
[Net Reminder](#)
(updated 10/11/2020)

[Winlink Wednesday Change Notices](#)
(updated 07/12/2020)

LATEST NEWS:
* "All All About Winlink Wednesday" PDF updated on 10/06/2020 (link in first table, below)
* KW6GB's Winlink Blog updated on 10/02/2020 (link in first table, below)

<https://www.facebook.com/groups/VirginiaEmComm/>



Greg Butler, KW6GB
safercitizen@gmail.com