What is Winlink?

Winlink is **a worldwide radio email service** that uses radio pathways where the internet is not present, and is capable of operating completely without the internet—automatically.

It is widely used for:

- Marine use – ships at sea
- **Emergency Communications**
- 4WD off road use or other use away from cell towers
- Winlink use in CA 2018 Wildfires: https://youtu.be/qHP-crOn7Ic?t=2722
- **Kentucky Ice Storm 2009**
    - Cell, landline or FAX: NO
    - Data? NO
    - Public safety, mutual aid? NO
    - Satellite, microwave? NO
    - Winlink radio email? **YES**
    - Mobile from a TEMA vehicle
    - *This photo sent via WinLink from vehicle*
- When HMS Bounty sank during **Hurricane Sandy**, Captain used his Winlink account to e-mail the Coast Guard. Rescue planes arrived within 60 minutes. *14 lives were saved.*
- After **Hurricane Maria** in Puerto Rico where conventional communications were unavailable, Winlink was used by the ARRL and Red Cross to communicate back to the continental US.

WHY IS WINLINK AN IMPORTANT PART OF EMERGENCY COMMUNICATIONS?

- Winlink is used as an emergency email gateway: http://www.pigate.net/welcome.html
- WVCARC is a ham radio club dedicated to emergency Winlink communications for their schools and fire stations: https://www.wvcarc.com/

- You can send Forms for emergency message handling

General Message (ICS 213)		
1. Incident Name:		
2. To (Name/Position): Bill Dornbush		
3. From (Name/Position): AA6BD		
4. Subject: ACS check-in	5. Date: 2020-04-19	6. Time: 09:33
7. Message AA6BD, Bill, Santa Rosa, CA, VHF, packet		
8. Approved by: AA6BD Position / Title: AA6BD		

What do you need to use it as a radio amateur?

- Radio, either HF or VHF
    - HF: 80, 40, 30, 20, 15 Meters
    - VHF: 2M
- Computer, either Windows, Mac, or Linux/Raspberry Pi
    - Windows: Use Winlink Express software
    - Linux/Raspberry Pi: Use PAT or LinBPQ software
    - Mac: Use either PAT or Winlink Express via Windows emulator
- Connection between Radio and Computer
    - Depends on your radio and your computer
    - HF: Pactor, Winmor, Ardop, Vara modems
    - VHF: Packet or Vara FM
    - Example: IC-7100 and Windows 10 via USB (HF or VHF)
    - Example: Yaesu FT1 handheld, TNC Terminal Node Controller (Byonics Tiny Trak4), and Raspberry Pi (VHF Packet)
    - Example: Yaesu FT-8900, Direwolf software TNC, Signalink, and Raspberry Pi (VHF packet, or with an HF radio, HF)
- You and your radio connect to
    - RMS Gateway station
        - VHF: W6SON-10 at English Hill, for example, on 2 Meters
        - HF: KB6YNO, or K6SDR, for example, on 40 Meters
    - RMS Gateway connects to CMS Common Message Servers
    - CMS connects to Internet so you can send and receive emails from anyone

E-Mail

You --- via radio -- RMS --- via Internet – CMS – via Internet to E-Mail world wide

- Winlink also supports peer-to-peer connection and RMS-to-RMS connection so no Internet is needed – great for true emergencies

What precautions are taken to protect your radio license?

- Winlink security requires that you, as a Winlink account holder, "whitelist" email addresses allowed to send email to you through Winlink. That is, you must register the email address in advance of that person sending an email to you through Winlink.
    - This blocks spammers and other unwanted email, such as commercial traffic.
    - You can bypass the whitelist security by using a subject starting with "//WL2K"
- Email includes this warning: "This message was sent from an amateur radio account. If you reply, be mindful that your reply will be subject to inspection by the public. If your reply contains prohibited content (profanity, personal or commercial business information, etc.) it may not reach its destination, and will endanger your correspondent's license. Ask your correspondent if you have any questions."

Planned for next Emergency Communications workshop:

- Demonstration of Emergency Communications at an evacuation site where Internet is not available.
- You can connect via Wi-Fi to a Raspberry Pi functioning as a hotspot
- You can compose and send email or text message through your browser to the Raspberry Pi Winlink station which will transmit it to anyone on email or to cell phone (email or text message)

For more on Winlink: https://winlink.org/