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# ***Winlink Tutorial 1***



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# Winlink Express Tutorial Series Overview

Scott MacGillivray, KM6RTE

- **Tutorial 1**
  - Introduction and uses for Winlink
  - Winlink installation and setup
  - Compose and send simple message
- **Tutorial 2**
  - Additional setup and capabilities
  - Forms and customization features
- **Tutorials 3 and 4**
  - Hardware configurations
  - Setting up Winlink with a radio
- **Tutorial 5**
  - Additional radio setup options
  - Other Winlink operating modes
- **Additional Tutorials?**
  - Depends on interest
- **Winlink Peer-To-Peer Sessions?**

## Tutorial 1 Focus:

- **Winlink Express is extremely versatile**
  - Therefore, initial focus is just on quickly setting up the software and sending initial test message and using default settings
- **Future tutorials will expand on additional features and customization options**



# What is Winlink?

Scott MacGillivray, KM6RTE

- Free software for windows computer
  - Small donation is encouraged
- Enables E-mail over radio
- Mature, well-tested, and full-featured system
- Adopted by government agencies at all levels for contingency communications
- The system is built, operated and administered entirely by licensed volunteers
- Development is driven by user input and experiences during incidents and exercises



# Why Do We Need Winlink?

Scott MacGillivray, KM6RTE

- **Earthquakes, forest fires, cyberattacks, and many other events will knock out much of the communications infrastructure**
- **Radio amateurs need to be aware of the perception by government entities of the capabilities and limitations of amateur radio, and step up to meet that challenge**
  - **Current digital communications tech greatly increases throughput**
- **Radio can provide essential communication when all other communication options are gone**
  - **Puerto Rico and New Orleans are good examples**
  - **Some Winlink operating modes utilize no external existing infrastructure**

***“Existing auxiliary amateur radio processes are slow and not capable of handling the large volumes of traffic expected during an event of this size, mostly due to radio bandwidth issues.”***

Statewide After-Action Report, State of Oregon. Based on FEMA multi-state Cascadia Subduction Zone Catastrophic Earthquake and Tsunami Functional Exercise, June 2016.

# What Winlink Offers for EmComm

*- Offers Unique Message Handling Capabilities*

Scott MacGillivray, KM6RTE

- **Reliability, accuracy, and interoperability**
  - High reliability
    - 99.99% availability for 15 years
  - 100% accurate message transmissions
  - Radio bridge to Internet E-mail
- **Geographical dispersion and redundancy for reliability**
- **Good operation at most power levels**
- **Time independence**
  - Stores messages for pickup at a later time
- **Not limited by station-to-station propagation (using relays)**
- **Many ICS and other forms built in**
- **Automatic message logging and ICS-309 report generation**
- **Standard E-mail format with many features**
  - Binary file attachments (e.g., pictures, pdf, spreadsheets), within file size limit
  - Automatic message compression and decompression
- **A communication system is only useful if the recipient can receive the messages**
  - Winlink is used by many agencies and non government organizations
  - Even if they don't have a radio, you can send and receive Internet E-mail
- **Interoperability is vital in EmComm**
- **Supports non-ham governmental communications**
  - SHARES (SHARed RESources HF Radio Program) administered by DHS

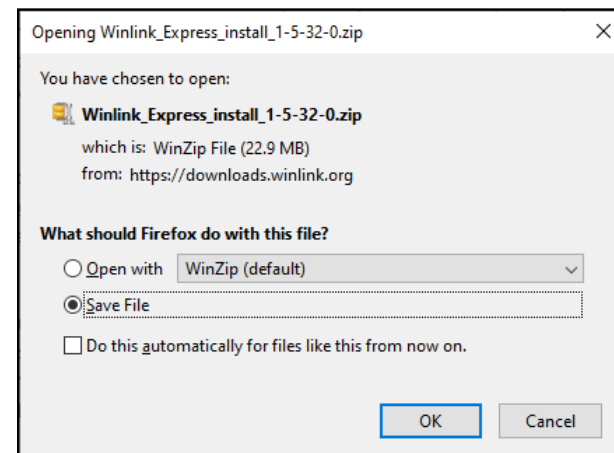
# Downloading Winlink Express Software

Scott MacGillivray, KM6RTE

- Go To: [winlink.org/WinlinkExpress](https://winlink.org/WinlinkExpress)



- Winlink Express runs only on Windows OS computers
  - Can operate on MacOS and Linux computers in Windows emulation mode
- Previously known as Winlink 2000 and RMS Express



*If possible, install on portable computer (e.g., laptop) so it can be part of your go-kit*

# Winlink Express Main Window

- Looks Similar to Common E-Mail Software

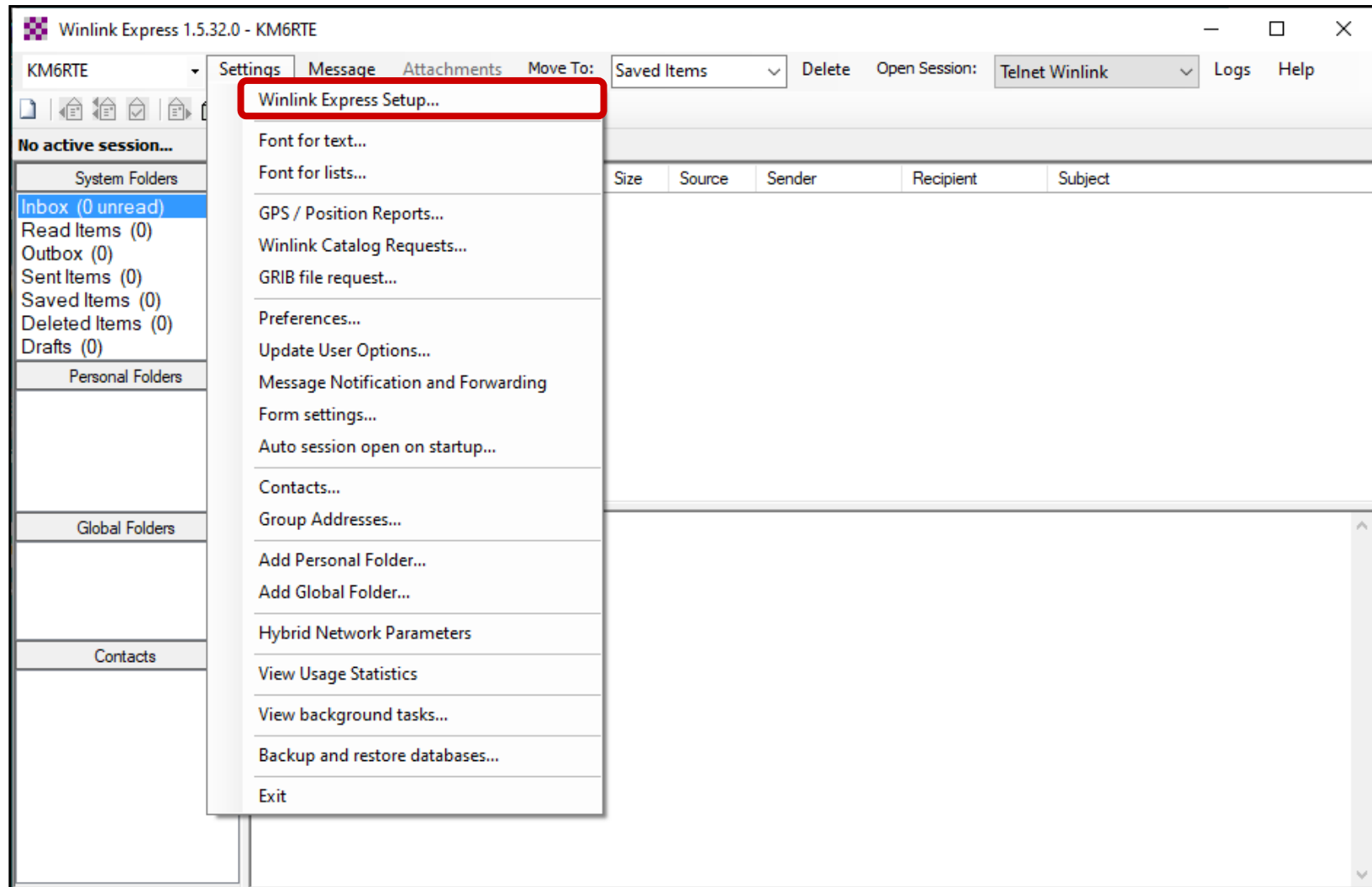
Scott MacGillivray, KM6RTE

The screenshot shows the Winlink Express 1.5.32.0 - KM6RTE main window. The window title bar includes the application name and standard minimize, maximize, and close buttons. The menu bar contains: KM6RTE, Settings, Message, Attachments, Move To: Saved Items, Delete, Open Session: Telnet Winlink, Logs, and Help. A blue bracket labeled "Menu Bar" points to this area. Below the menu bar is a toolbar with icons for file operations and a blue bracket labeled "Quick Links" pointing to it. The main window is divided into three sections. On the left is a folder pane with "System Folders" (Inbox (0 unread), Read Items (0), Outbox (0), Sent Items (0), Saved Items (0), Deleted Items (0), Drafts (0)), "Personal Folders", "Global Folders", and "Contacts". A blue bracket labeled "Common E-mail Folders" points to the System Folders list. The middle section is a "List of Messages" table with columns: Date/Time, Message ID, Size, Source, Sender, Recipient, and Subject. The bottom section is a "Preview Pane of Selected Message". A blue callout box with a pointer to the "Open Session: Telnet Winlink" dropdown menu contains the text: "Leave the drop-down menu on Telnet Winlink (As it uses internet connection)".

# Winlink Express Setup

*- For Users With Established Accounts, How To Navigate to Setup Window*

Scott MacGillivray, KM6RTE





# Winlink Express Properties Window

- Immediately Opens Up for New Users

Scott MacGillivray, KM6RTE

Winlink Express Properties

Call Signs

My Callsign:  My Password:  (Case sensitive)  Show password

Callsign suffix (optional):  (Used for country code)

Password recovery e-mail:  (Non-Winlink e-mail address where lost password will be sent when requested)

Auxiliary Callsigns and Tactical Addresses

My Grid Square:

Winlink Express registration key:

Service Codes

(Use PUBLIC for ham call signs. Separate multiple service codes by spaces.)  
If you change service codes, you must update the list of channels.

Contact Information (Optional)

Name:

Street address 1:

Street address 2:

City:

State/Province:

Country:

Postal code:

Web Site URL (optional):

Phone number:

Non-Winlink e-mail:

Additional information (optional):

Recalculate HF path quality if SFI changes more than:

Keep logs for  weeks. Keep deleted messages for  days.

Display list of pending incoming messages prior to download

Warn about connections to stations holding messages

Allow diagnostic information to be sent to the Winlink Development Team

Automatically install field-test (beta) versions of Winlink Express

Once you select Update, a new account will be established for first-time users

# Compose Simple Message Utilizing a Form Template

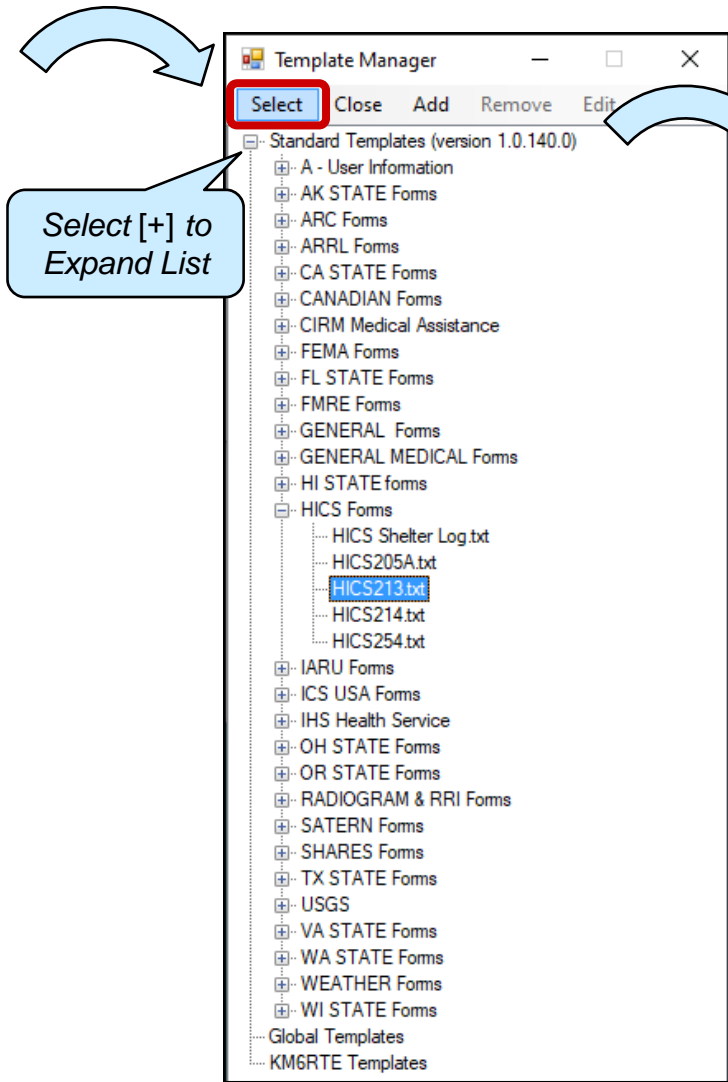
Scott MacGillivray, KM6RTE

The screenshot displays the Winlink Express 1.5.32.0 - KM6RTE interface. The main window shows a menu bar with 'Message', 'Attachments', 'Move To: Saved Items', 'Delete', 'Open Session: Telnet Winlink', 'Logs', and 'Help'. A 'New Message...' menu item is highlighted with a red box. A blue callout bubble points to a 'Quick Link' icon in the toolbar, stating 'Alternatively Select Quick Link'. The 'Enter a new message' dialog box is open, showing a 'Select Template' button highlighted with a red box. The dialog box includes fields for 'From: KM6RTE', 'Send as: Winlink Message', 'To:', 'Cc:', 'Subject:', and 'Attach:'. A blue arrow points from the 'Select Template' button to the 'Subject' field. Another blue arrow points from the 'Subject' field to the main message body area.

# From Template Manager, Open HICS 213 Form

Scott MacGillivray, KM6RTE

*Highlight and Select form from Template Manager (or double click on form selected)*



*Blank form opens in your default browser window*

HICS213 Initial

file:///C:/RMS Express/KM6RTE/Temp/HICS213...

### HICS 213 - General Message [Form Instructions](#)

[Load HICS 213 data](#)

1. Incident Name:  Msg #:

2. To (Name/Position):

3. From (Name/Position):

4. Subject:  5. Date:  6. Time:

7. Priority:  URGENT - HIGH  NON URGENT - MEDIUM  INFORMATIONAL - LOW

8. Message:  Response Required

Be Brief and Concise

9. Approved by:

[Save HICS 213 data](#) [Submit](#) [Reset Form](#)

Ver 2.2

# Complete Form by Filling In Open Fields

- *Demonstration HICS 213 Form to be Sent to OCHEART*

Scott MacGillivray, KM6RTE

HICS 213 - General Message [Form Instructions](#)

[Load HICS 213 data](#)

1. Incident Name:  Msg #:

2. To (Name/Position):

3. From (Name/Position):

4. Subject:  5. Date:  6. Time:

7. Priority:  URGENT - HIGH  NON URGENT - MEDIUM  INFORMATIONAL - LOW

8. Message:  Response Required

9. Approved by:

[Save HICS 213 data](#)

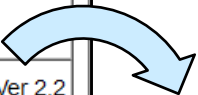
Ver 2.2

Change Msg # to 001, as field automatically populates with call sign

Date and time default to current day and time

Example text provided for demonstration

When complete, select Submit



# Returns to Message Window

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## Confirmation window appears, select OK

To complete your form submission, click OK and close the open browser window. You will return to the new message window so you can post your message to the outbox

OK

Cancel

You may need to close your browser window, if left open

Add the "To:" address information

Then select Post to Outbox (new message window will close)

Enter a new message

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

From: KM6RTE Send as: Winlink Message  Request message receipt Set Defaults

To: OCHEART

Subject: HICS213: Winlink Test Message - Msg# [001]

Attach: RMS\_Express\_Form\_HICS213\_Initial\_Viewer.xml

HICS213 GENERAL MESSAGE

1. Incident Name: Winlink Test Message - Msg# [001]
2. To (Name and Position): OCHEART
3. From (Name and Position): Scott MacGillivray KM6RTE
4. Subject: Tutorial 1 Test Message
5. Date: 2020-11-21
6. Time: 14:07
7. Priority: [INFORMATIONAL]
8. Message: [NO RESPONSE REQUIRED]

This is a Test Message in support of Tutorial 1

9. Approved by: Scott MacGillivray KM6RTE

Express Sending Station: KM6RTE  
Senders Express Version: 1.5.32.0  
Senders Template Version: HICS 213 v 2.2

Note: This is the text information you filled in on the form

### "To:" Address Options:

- Tactical for addresses within Winlink system (e.g., OCHEART, KM6RTE)
- Complete addresses for regular E-mail accounts (e.g., KM6RTE@gmail.com)

# Verify That Message is Posted in Outbox

Scott MacGillivray, KM6RTE

Then select Open Session for a Telnet Winlink session

The screenshot shows the Winlink Express 1.5.32.0 interface. The menu bar includes 'Settings', 'Message', 'Attachments', 'Move To: Saved Items', 'Delete', 'Open Session: Telnet Winlink', 'Logs', and 'Help'. The 'Open Session' menu item is highlighted with a red box. A blue callout bubble points to it with the text 'Then select Open Session for a Telnet Winlink session'. A blue arrow points from this bubble towards the right side of the window. The main window displays a table of messages. The 'Outbox (1)' folder is selected in the left sidebar, with a callout bubble pointing to it that says 'Highlight Outbox Folder'. The table has columns for Date/Time, Message ID, Size, Source, Sender, Recipient, and Subject. A single message is listed with the following details: Date/Time: 2020/11/21 22:11, Message ID: 06EBQ2KW1XXN, Size: 1048, Source: KM6RTE, Sender: KM6RTE, Recipient: OCHEART, Subject: HICS213: Winlink Test Message - Msg# [001]. A callout bubble points to this row with the text 'Your new message listed (ready to be sent)'. Below the table, the message details are displayed in a text area, including the message ID, date, time, from, to, source, and subject fields, followed by the message body text: 'HICS213 GENERAL MESSAGE' and a list of four items: 1. Incident Name: Winlink Test Message - Msg# [001], 2. To (Name and Position): OCHEART, 3. From (Name and Position): Scott MacGillivray KM6RTE, 4. Subject: Tutorial 1 Test Message.

Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
2020/11/21 22:11	06EBQ2KW1XXN	1048	KM6RTE	KM6RTE	OCHEART	HICS213: Winlink Test Message - Msg# [001]

Message ID: 06EBQ2KW1XXN  
Date: 2020/11/21 22:11  
From: KM6RTE  
To: OCHEART  
Source: KM6RTE  
Subject: HICS213: Winlink Test Message - Msg# [001]

HICS213 GENERAL MESSAGE

1. Incident Name: Winlink Test Message - Msg# [001]
2. To (Name and Position): OCHEART
3. From (Name and Position): Scott MacGillivray KM6RTE
4. Subject: Tutorial 1 Test Message

# Telnet Winlink Session Window

The image shows two screenshots of the 'Telnet Winlink Session' window. The top screenshot shows the window with the 'Start' button highlighted in red. The bottom screenshot shows the window with the 'Exit' button highlighted in red. The log in the bottom screenshot shows the following text:

```
*** Connecting to a CMS...
*** Connected to CMS-SSL at 2020/11/21 22:16:00
[WL2K-5.0-B2FWIHJM$]
:PQ: 82779906
CMS>
:FW: KM6RTE
[RMS Express-1.5.32.0-B2FHM$]
:PR: 37766274
:WL2K DE KM6RTE (DM13CS)
FC EM 06EBQ2KW1XXN 2308 991 0
F> 57
FS Y
*** Sending 06EBQ2KW1XXN.
FF
*** Completed send of message 06EBQ2KW1XXN
*** Sent 1 message. Bytes: 1048, Time: 00:00, bytes/minute: 228616
FQ
*** -- End of session at 2020/11/21 22:16:05 --
*** Messages sent: 1. Total bytes sent: 1048, Time: 00:05, bytes/minute: 12427
*** Messages Received: 0. Total bytes received: 0, Total session time: 00:05, bytes/minute: 0
*** Disconnecting
*** Disconnected at 2020/11/21 22:16:06
```

Annotations include:

- A blue arrow pointing to the 'Start' button in the top screenshot.
- A blue arrow pointing to the 'Exit' button in the bottom screenshot.
- A blue bracket on the right side of the bottom screenshot, with a text box containing the text: *Details created as connection is completed*.
- A blue arrow pointing to the bottom right corner of the bottom screenshot, with a text box containing the text: *Select Exit after verifying the session has disconnected*.

**Congratulations!**  
**You've sent your first Winlink message !**

# Message Moved to Sent Items Folder

Scott MacGillivray, KM6RTE

The screenshot shows the Winlink Express 1.5.32.0 - KM6RTE interface. The window title is "Winlink Express 1.5.32.0 - KM6RTE". The menu bar includes "Settings", "Message", "Attachments", "Move To: Saved Items", "Delete", "Open Session: Telnet Winlink", "Logs", and "Help". The toolbar contains various icons for file operations. The main area displays "No active session." and a table of messages. The left sidebar shows a folder tree with "System Folders" (Inbox, Read Items, Outbox, Sent Items, Saved Items, Deleted Items, Drafts), "Personal Folders", "Global Folders", and "Contacts". The "Sent Items (1)" folder is highlighted. A callout bubble points to it with the text "Highlight Sent Items Folder". The message table has the following data:

Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
2020/11/21 22:11	06EBQ2KW1XXN	1048	KM6RTE	KM6RTE	OCHEART	HICS213: Winlink Test Message - Msg# [001]

A callout bubble points to the message row with the text "Your Sent message listed".



# Homework

- Completed Before Tutorial 2

Scott MacGillivray, KM6RTE

- **Install and setup Winlink Express**
  - Register your call sign
- **Compose and send sample message with HICS 213 form**
  - Send to OCHEART address
  - Check for reply after a few days
- **Send an E-mail with make and model of your radio that you plan to use with Winlink**
  - Helps me plan Tutorials 3 and 4
  - You can send using Winlink Express (“KM6RTE”) or your normal E-mail software (“KM6RTE@gmail.com”)
- **Other references:**
  - Check out [www.winlink.org](http://www.winlink.org) website for lots of useful information
  - **Beginners guide to setting up Winlink:**  
<https://www.youtube.com/watch?v=fO730qfzYko>

## Example reply from OCHEART:

The screenshot shows a web browser window with a single tab titled 'HICS 213'. The address bar contains the file path 'file:///C:/RMS Express/KM6RTE/Temp/HICS213...'. The page content is a form titled 'HICS 213 - General Message' with the following fields:

1. Incident Name: Winlink Test Message			Msg #: 001			
2. To (Name/Position): OCHEART						
3. From (Name/Position): Scott MacGillivray KM6RTE						
4. Subject: Tutorial 1 Test Message				5. Date: 2020-11-21		6. Time: 14:07
7. Priority: INFORMATIONAL						
8. Message: NO RESPONSE REQUIRED This is a Test Message in support of Tutorial 1						
9. Approved by: Scott MacGillivray KM6RTE						
10. Reply: Thanks for the message Scott.						
11. Replied By Name: Art Remnet, KM6RSY Position: AEC Facility: OCHEART, West Date / Time: 11/21/2020 18:07						
					Ver 2.2	

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# Questions?

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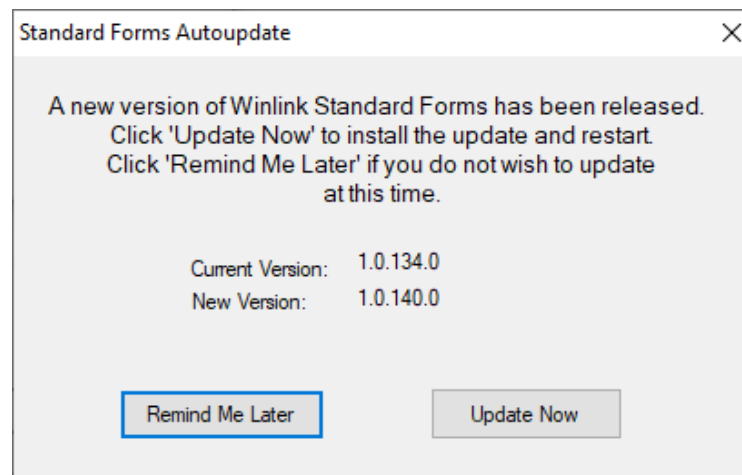
# *Back-Up Charts*

**Charts with Additional Details and Information**

# How Software Updates are Handled

Scott MacGillivray, KM6RTE

- **When you start Winlink Express, it automatically checks to verify that you have the latest version of the software**
  - **When connected to the Internet**
  - **Generally wait about 30 seconds before starting activity in case a new version needs to be installed and software restarted**
- **Winlink Express also checks for latest library of forms**
  - **Will also update if new version is available**
  - **Forms library are on separate update and release cycle from Winlink Express software**



# How to Get a Winlink Account

Scott MacGillivray, KM6RTE

- **Start Winlink Express while computer is connected to internet**
- **Fill out the Winlink Express settings form presented on first startup after installation**
  - **See the Winlink Help article "Basic Configuration" for guidance**
  - **Be sure to include a password and password recovery E-mail address**
  - **Click Update**
  - **Winlink Express makes the process easy**
  - **Your account is created!**
- **Amateur Radio Safety Foundation, Inc.**
  - **A 503(c)(3) Non-Profit Benefit Corporation**
  - **Suggest purchasing registration key**

## Amateur Radio Safety Foundation, Inc.

Winlink Global Radio Email® is an all-volunteer project of the Amateur Radio Safety Foundation, Inc. (ARSFI), a non-profit public benefit corporation with no beneficial owners.

If you use Winlink radio email or correspond regularly with someone who does, [please contribute to ARSFI](#). By giving \$25 each year you will do your part to keep this important system running. *Donations are tax-deductible by US federal taxpayers. A donation is always the best way to say "thank you" to Winlink volunteers!*

## Amateur Radio Safety Foundation

A 503(c)(3) Non-Profit Public Benefit Corporation

AMOUNT



Want to [purchase a registration key](#) for your software? *That's different than a donation! And is another way to contribute.*

When you shop Amazon, use [smile.amazon.com](#) and choose ARSFI as your charity. Amazon donates 0.5% of your purchases to the Amateur Radio Safety Foundation, Inc. Same Amazon, same prices! Painless!

# Winlink Express Registration Key

Scott MacGillivray, KM6RTE

- If you don't donate and install a registration key, you will get this "reminder" window often when you first start Winlink Express
  - Recommended "Donation" is \$25



Winlink Express Registration

Winlink Express is made possible through the Amateur Radio Safety Foundation Inc. Your registration of Winlink Express and support for the ARSF makes the Winlink system possible. Registering Winlink Express also registers your callsign to use the Winmor TNC.

Registration Site URL (click):  
<http://www.arsfi.org/express.aspx>

Enter Registration Key

Call Sign: KM6RTE  
Registration Key:

# Grid Squares For Portions of Orange County

Scott MacGillivray, KM6RTE

- Various websites available to determine your Maidenhead grid square:
  - [levinecentral.com/ham/grid\\_square.php](http://levinecentral.com/ham/grid_square.php)
  - [dxcluster.ha8tk.com/hamgeocoding/](http://dxcluster.ha8tk.com/hamgeocoding/)
  - [qrz.com/gridmapper](http://qrz.com/gridmapper)

