# Makani ʻIno COMEX

## After-Action Report                                         July 16, 2022

The After-Action Report provides a summary of COMEX results, in order to align exercise objectives with preparedness doctrine to include the National Preparedness Goal and related frameworks. Hawaii ARES® uses trend analysis, and performance data to measure progress towards achieving objectives, as defined in our Multiyear Integrated Preparedness Training Plan. This data and analysis allow us to identify our strengths as well as areas for improvement. It is a guide to the design of future exercises. Hawaii ARES takes a step-by-step approach toward meeting our long-term goals. The AAR aids us in creating an achievable improvement plan. It is used by the Hawaii ARES FSO to define and update our Multiyear Integrated Preparedness Training plan.

# Exercise Overview

| | |
|---|---|
| **Exercise Name** | Makani 'Ino Hawaii |
| **Exercise Date** | July 16th, 2022 @ 09:00 - 12:00 HST |
| **Scope** | This exercise was designed to test Hawaii ARES communications response to a severe hurricane event and communication outage across the state of Hawaii |
| **Mission Area** | State Emergency Support Function #2 |
| **Core Capabilities** | Planning, Disaster Communications |
| **Objectives** | 1.0 Communication Planning<br>2.0 Local Communications<br>3.0 Wide Area Communications<br>4.0 Documenting Communications<br>5.0 Data Communications |
| **Threat or Hazard** | Weather, Telecommunications/Power Outage |
| **Scenario** | A severe Hurricane with heavy rain and high wind moves across the state from Hawaii County to Kauai County over a simulated 3 day period. Damage and blockage to roads, structures, and power /communications infrastructure occur as the storm passes over each county. |
| **Sponsor** | Hawaii State ARES |
| **Participating Organizations** | County Emergency Management Agencies, Hawaii County Auxiliary Communication Service. |

| **Point of Contact** | Clement Jung, ARES Section Emergency Coordinator, lemjung@gmail.com |

## Overall Analysis of Core Capabilities

Aligning exercise objectives and core capabilities provides a consistent taxonomy for evaluation that transcends individual exercises to support preparedness reporting and trend analysis. Table 1 includes the exercise objectives, aligned core capabilities, and performance rating for each core capability as observed during the exercise and determined by the evaluation team.

| Objective | Core Capability | Performed without Challenges (P) | Performed with Some Challenges (S) | Performed with Major Challenges (M) | Unable to be Performed (U) |
|---|---|---|---|---|---|
| 1.0 Communications Planning. | .1 Planning<br>.2 Documentation | | S<br>S | | |
| 2.0 Local Communications | .1 Nets & Protocol<br>.2 Communications | P | S | | |
| 3.0 Wide-Area Communications | .1 Band Agility<br>.2 Relay Ability | | S | M | |
| 4.0 Documentation | .1 Log Completion<br>.2 Form Usage | | S<br>S | | |
| 5.0 Data Communication | .1 Software Setup<br>.2 Hardware interface<br>.3 User Proficiency | P | S<br>S | | |

**Ratings Definitions:**
- (P): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws.
- (S): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws. However, opportunities to enhance effectiveness and/or efficiency were identified.
- (M): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s), but some or all of the following were observed: demonstrated performance had a negative impact on the performance of other activities; contributed to additional health and/or safety risks for the public or for emergency workers; and/or was not conducted in accordance with applicable plans, policies, procedures, regulations, and laws.
- (U): The targets and critical tasks associated with the core capability were not performed in a manner that achieved the objective(s).

**Table 1. Summary of Core Capability Performance**

**[1.1 Communication Planning]**
Leadership of each participating district and team will successfully plan locations for hub stations to run local nets, and relay stations as needed to assist with challenging locations. This is done in coordination with your local DEC/CEC. The goal is providing communication coverage to all communities in each district.

**[1.2 Communication Planning: Documentation]**
Hub and relay stations frequencies and contact points are documented on the ICS-204, assignment list and frequency plans including primary, alternate, contingency, and emergency modes are listed in the ICS-205 Incident Radio Communication Plan. Districts coordinate with the planning team and ARES leadership to assure a complete and consistent level of documentation. All ICS forms are to be signed off at the bottom by the station approving the update, and the date and time of update is to be listed.

**[2.1 Local Communication: Nets & Protocol]**
All ARES Districts are to hold local nets on a regular basis, as a primary method of assuring that local stations are familiar with net protocol. These nets also allow stations to learn about local communication plans, practice message handling, assure that their stations are functioning properly, and become familiar with each other prior to any COMEX.

**[2.2 Local Communication:]**
The goal of all local communication plans is to provide resilient and reliable communication pathways in all circumstances. Although various infrastructure, bands, and modes may be included in local communication plans, it is a top priority to assure that we will be able to communicate without any infrastructure. Therefore, all ARES leaders and members must work together to define and practice using modes of communication year round which do not require using supporting infrastructure. This includes use of simplex voice relays, peer to peer modes, and ad-hoc solutions that can be deployed in a rapid, flexible way such as mobile cross band repeaters, and digipeaters.

**[3.1 Wide Area Communication: Band Agility]**
A variety of communication pathways, modes, and band agility is encouraged to maintain resilient communication pathways. All stations in the field may not be able to achieve all modes defined. Yet hub and relay stations need to be more resilient and would include better equipped stations and experienced operators. They need the ability to operate in both analog and digital modes, on VHF and multiple bands of HF. This way those stations would have at least a primary and backup mode of maintaining communication between stations in the field and served agencies. However, stations in the field are also encouraged to strive to implement multiple communication pathways whenever possible in order to maximize their own ability to be self-reliant.

**[3.2 Wide Area Communication: Relay Ability]**
All communities are encouraged to designate official relay stations as needed in their area to help stations with challenging terrain, and those who may not be as well-equipped as others. All ARES members are encouraged to practice and be ready to act as ad-hoc relays throughout the year. Our

ability to provide relay services will continue to be an important operational capability in order to assure communications in all conditions.

[4.1 Communication Documentation: Logs]
Communications between all stations must be documented on an ICS-309 Communications Log. It is best practice for all stations to maintain a communications log with their station for each operating period, as well as forward a copy of this log to their local DEC by the end of the operational period.

During any COMEX these logs are used to aid the ARES leadership in exercise evaluation. In a real disaster, these logs are useful to the ICS planning unit. Information such as band condition reports, situational awareness, and logs showing the active stations inform the planning process as well as aid the incident operations and command in determining operational capabilities.

[4.2 Communication Documentation: Forms]
The use of appropriate forms, such as the ICS-213 general message form and others as required by our served agencies, is a core capability. Stations must be familiar and practiced with these forms in order to achieve reliability and accuracy in passing the essential elements of information and to prevent errors in message transmission. Although there may be certain urgent tactical situations where it is not always possible to use appropriate forms, in general, the use of the form and formats requested by any agency having jurisdiction or NGO that we support must be considered as a core competency in message handling.

[5.0 Data Communications]
Data communication modes continue to be of increasing importance in all EMCOMM scenarios. These modes allow communications under conditions when voice modes are unable to be heard due to poor conditions. Many data modes operate faster and provide greater accuracy, especially when detailed complex information such as a list of equipment or medical supplies must be transmitted. More importantly, served agencies are incorporating methods to allow information passed via Amateur Radio data modes directly into their dispatch and tracking systems. An important and increasingly used capability is the ability to embed GPS coordinates into these digital modes that allow our served agencies to map locations of activities in real-time into their Geographical Information Systems. (GIS)

**National Preparedness Goal:**

*"A secure and resilient nation with the capabilities required across the whole community to prevent, protect against, mitigate, respond to, and recover from the threats and hazards that pose the greatest risk."*

**Documentation for the Drill:**

**37 different documents created**

**22 were ICS 204 and 205s**

**33 were available on HawaiiAres.net over 10 days before the drill**

| | Item | State | Kauai | Oahu | | | | | Maui | Hawaii | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | District | | North | Leeward | South | Windward | EOC | | North | East | South | West |
| 1A | ICS-201-HIState Incident Briefing | + | | | | | | | | | | | |
| 1B | ICS 202 - Hawii State Incident Objectives | + | | | | | | | | | | | |
| 1C | ICS 203 Hawaii State Organization Assignment List | + | | | | | | | | | | | |
| 1D | ICS-204 Assignment List | | + | + | + | + | + | + | + | + | + | + | + |
| 1E | ICS-205 Incident Radio Communications Plan | + | + | + | + | + | + | + | + | + | + | + | + |
| 1F | ICS-207 Incident Organizational Chart | + | | | | | | | | | | | |
| 1G | ICS-208 - Safety Plan Makani 'Ino Exercise | + | | | | | | | | | | | |
| 2 | Makani 'Ino Drill Situation Manual-All Participants | + | | | | | | | | | | | |
| 3 | Makani 'Ino Facilitators Guide-Hub, Relay, EOC | + | | | | | | | | | | | |
| 4 | COMEX Flyer | + | | | | | | | | | | | |
| 5 | **Evaluation Plan** | | | | | | | | | | | | |
| 6 | **Drill Checklist -All Participants** | + | | | | | | | | | | | |
| 7 | **Exercise Evaluation Guides (EEGs)** | | | | | | | | | | | | |
| 8 | Makani 'Ino ARES Hurricane Drill Sign Up Form | + | | | | | | | | | | | |
| 9 | **Creating Injects Makani 'Ino** | | | | | | | | | | | | |
| 10 | **Makani 'Ino Inject Writer's Guide** | | | | | | | | | | | | |

### Makani 'Ino Participant Drill Checklist 7/16/2022

**1 Week before the Drill:**
- ☐ Make sure you're signed up for the Drill https://forms.gle/oWiKNaJCFwxTAM5V7
- ☐ Use the links at HawaiiARES.net to review any of the documentation, especially the ICS-204 and ICS-205 for your area. Make sure you have ICS-214 and ICS-309 logs.
- ☐ Check the functionality of your radio, antenna, Winlink capability & emergency power.

**Night before the Drill:**
- ☐ Make sure your equipment is together, functional and ready to use or deploy.
- ☐ If you have emergency power, make sure it is charged and ready to use.
- ☐ Make sure all the frequencies you might need are programmed into your radio(s).
- ☐ Make sure you have your ICS-204 and ICS-205 for your county or district.
- ☐ Make sure you have your injects available and ready to use.
- ☐ Make sure you have your ICS-214 log and ICS-309 log printed out

**Morning of the Drill:**
- ☐ Set up station & monitor appropriate frequency for the drill start announcement. GO!
- ☐ Move your messages forward per the following timeline:

| Time HST | Goal | Winlink | Voice |
|---|---|---|---|
| 0900 | Start of drill announcement Via County EMAs on Linked Repeaters / HF | | |
| 0900 - 0930 | Winlink: Send to Skywarn KH6SW Voice: Hubs > County EMA | Winlink Hurricane Report > KH6SW via RMS Gateways | HUB Check-in to County EMA HUB announcement of Voice Nets |
| 0915 - 0930 | All: Check-in to nets | Winlink Check-in > Local Hub > County EMA via Winlink P2P | Voice Check-in to local HUB |
| 0930 - 1000 | Reports to County EMA | Winlink Field Situation Report > Local Hub > County EMA via Winlink P2P | Damage Reports > Local HUB HUB Winlink > County EMA |
| 1000 - 1030 | Reports to County EMA | 213 Damage Reports > Local Hub > County EMA via Winlink P2P | Damage Reports > Local HUB HUB Winlink > County EMA |
| 1030 - 1100 | Reports to County EMA | Selected Players: 213RFA > Local Hub > County EMA via Winlink P2P | Damage Reports > Local HUB HUB Winlink > County EMA |
| 1100 - 1130 | Reports > County ARC Reports to County EMA | Hurricane Daily Shelter Report > County ARC Shelter Rep. via RMS Gateways | Damage Reports > Local HUB HUB Winlink > County EMA |
| 1130 - 1200 | Check-outs | Winlink Check-out > Local Hub > County EMA via Winlink P2P | Voice Check-out > Local HUB HUB Check-out > County EMA |
| 1200 | End of Drill Announcement | | |
| 1300 - 1400 | Hotwash via Zoom https://us02web.zoom.us/j/84349631404?pwd=T290aGpXT29WSUxScUsyK0llZU15dz09 Meeting ID: 843 4963 1404 Passcode: 083289 | | |

**Sign-ups & Participation:**

| | Kauai | Oahu | | | | Maui | Hawaii | | | | T |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | WW | S | LW | | N | E | S | W | |
| # Stations Signed up | 19 | 12 | 24 | 28 | 8 | 12 | 11 | 20 | 3 | 5 | **142** |
| # Stations Participated | 15 | 7 | 18 | 22 | 7 | 8 | 13 | 18 | 1 | 3 | **112** |
| | | | | | | | | | | | |

**Voice Contact from Spokes:**

| Hub Nets: | Kauai | Oahu | | | | Maui | Hawaii | | | | T |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Voice contacts from Spokes** | | N | WW | S | LW | | N | E | S | W | |
| # of Checkins | 2 | 7 | 6 | 3 | 5 | 2 | 7 | 10 | 0 | 0 | **42** |
| # Skywarn messages | 2 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | **7** |
| # ARC messages | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | **2** |
| # EMA messages | 2 | 0 | 14 | 3 | 2 | 1 | 0 | 3 | 0 | 0 | **25** |
| # Other traffic | 5 | 0 | 0 | 0 | 0 | 0 | 8 | 13 | 0 | 0 | **26** |
| # Check-outs | 2 | 0 | 5 | 2 | 5 | 0 | 5 | 6 | 0 | 0 | **25** |
| **Total Messages:** | **13** | **8** | **25** | **8** | **12** | **3** | **26** | **32** | **0** | **0** | **127** |

**Winlink traffic from Spokes:**

| Hub Nets: | Kauai | Oahu | | | | Maui | Hawaii | | | | T |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Winlink traffic Received from Spokes** | | N | WW | S | LW | | N | E | S | W | |
| # Check-ins | 1 | 7 | 8 | 7 | 4 | 8 | 0 | 3 | 0 | 0 | **38** |
| # Hurricane messages [KH6SW] | 0 | 2 | 3 | 4 | 2 | 8 | 0 | 0 | 0 | 0 | **19** |
| # ARC messages | 0 | 0 | 0 | 1 | 0 | 7 | 0 | 0 | 0 | 0 | **8** |
| # EMA Damage 213 messages | 0 | 2 | 7 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | **10** |
| # EMA FSR messages | 3 | 1 | 8 | 6 | 2 | 0 | 0 | 0 | 0 | 0 | **20** |
| # EMA RFA messages | 0 | 2 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | **5** |
| # Other traffic | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **3** |
| # Check-outs | 1 | 7 | 8 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | **22** |
| **Total Messages:** | **5** | **21** | **39** | **18** | **13** | **23** | **0** | **6** | **0** | **0** | **125** |

**Voice Traffic to Served Agencies:**

| Hub traffic to Served Agencies* (Voice contacts) | Maui | Oahu | | | | Kauai | Hawaii | | | | T |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | WW | S | LW | | N | E | S | W | |
| # Check-ins | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 3 |
| # Hurricane messages [KH6SW] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| # ARC messages | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| # EMA Damage 213 messages | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| # EMA FSR messages | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| # EMA RFA messages | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| # Other traffic | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 |
| # Check-outs | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| **Total Messages:** | **0** | **0** | **0** | **0** | **0** | **1** | **7** | **2** | **0** | **0** | **10** |

**Winlink Traffic to Served Agencies:**

| Hub traffic to Served Agency* (Winlink traffic) | Maui | Oahu | | | | Kauai | Hawaii | | | | T |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | WW | S | LW | | N | E | S | W | |
| # Check-ins | 1 | 7 | 2 | 9 | 0 | 8 | 5 | 8 | 0 | 0 | 40 |
| # Hurricane messages [KH6SW] | 3 | 4 | 8 | 5 | 2 | 8 | 8 | 5 | 1 | 3 | 47 |
| # ARC messages | 3 | 1 | 0 | 1 | 0 | 7 | 1 | 3 | 0 | 0 | 16 |
| # EMA Damage 213 messages | 0 | 2 | 31 | 14 | 0 | 8 | 0 | 0 | 0 | 0 | 55 |
| # EMA FSR messages | 2 | 1 | 3 | 8 | 0 | 5 | 0 | 0 | 0 | 0 | 19 |
| # EMA RFA messages | 4 | 2 | 2 | 1 | 0 | 5 | 0 | 0 | 0 | 0 | 14 |
| # Other traffic | 0 | 0 | 3 | 3 | 0 | 12 | 12 | 0 | 0 | 0 | 30 |
| # Check-outs | 1 | 7 | 2 | 6 | 0 | 8 | 4 | 7 | 0 | 0 | 35 |
| **Total Messages:** | **14** | **24** | **51** | **47** | **2** | **61** | **30** | **23** | **1** | **3** | **256** |

**Voice Traffic Received by Served Agencies:**

| | Kauai | Oahu | | | | Maui | Hawaii | | | | T |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Served Agency/EMA (Received via Voice)** | | N | WW | S | LW | | N | E | S | W | |
| # Check-ins | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 1 | 0 | **5** |
| # Hurricane messages [KH6SW] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| # ARC messages | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| # EMA Damage 213 messages | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | **1** |
| # EMA FSR messages | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| # EMA RFA messages | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| # Other traffic | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | **6** |
| # Check-outs | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | **4** |
| **Total Messages:** | **0** | **0** | **0** | **0** | **0** | **0** | **9** | **2** | **5** | **0** | **16** |

**Winlink Traffic Received by  Served Agencies:**

| | Kauai | Oahu | | | | Maui | Hawaii | | | | T |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Served Agency/EMA (Received via Winlink)** | | N | WW | S | LW | | N | E | S | W | |
| # Check-ins | 7 | 0 | 0 | 9 | 0 | 8 | 7 | 4 | 0 | 0 | **35** |
| # Hurricane messages [KH6SW] | 7 | 5 | 8 | 9 | 3 | 6 | 10 | 5 | 1 | 1 | **55** |
| # ARC messages | 2 | 0 | 0 | 0 | 0 | 7 | 1 | 2 | 1 | 1 | **14** |
| # EMA Damage 213 messages | 0 | 0 | 0 | 14 | 0 | 8 | 9 | 10 | 0 | 0 | **41** |
| # EMA FSR messages | 14 | 0 | 0 | 7 | 0 | 5 | 0 | 1 | 0 | 0 | **27** |
| # EMA RFA messages | 10 | 0 | 0 | 1 | 0 | 5 | 5 | 1 | 0 | 0 | **22** |
| # Other traffic | 2 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | **5** |
| # Check-outs | 8 | 0 | 0 | 6 | 0 | 8 | 4 | 3 | 0 | 0 | **29** |
| **Total Messages:** | **50** | **5** | **8** | **49** | **3** | **47** | **36** | **26** | **2** | **2** | **228** |

**Hurricane Mapping Tool: Kauai**
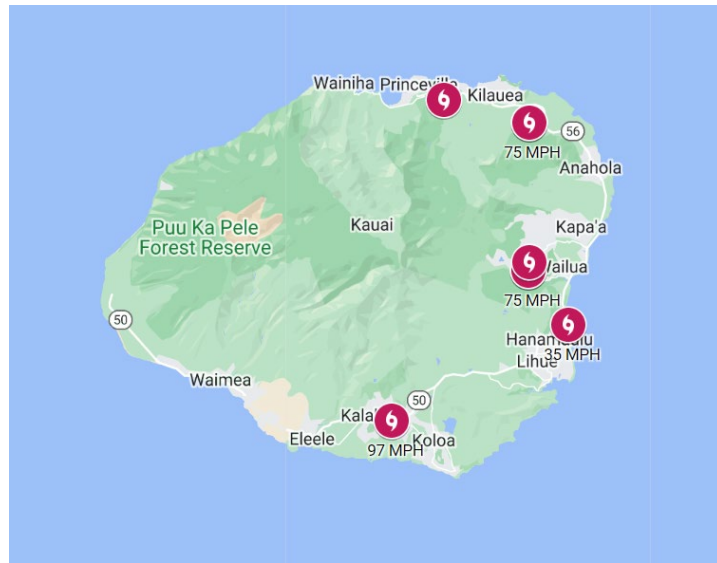


**Oahu:**
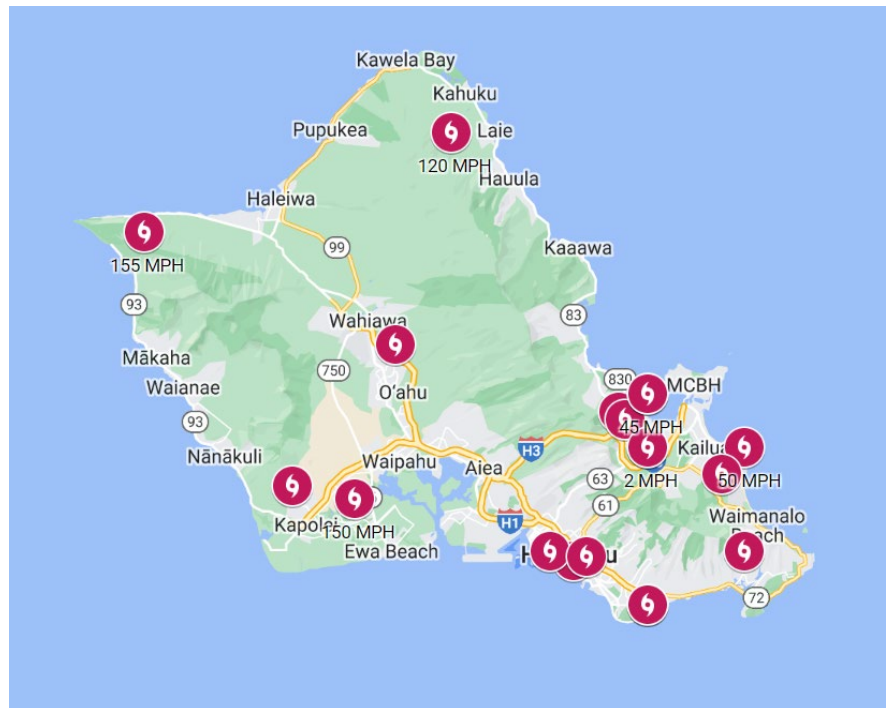
**Maui:**
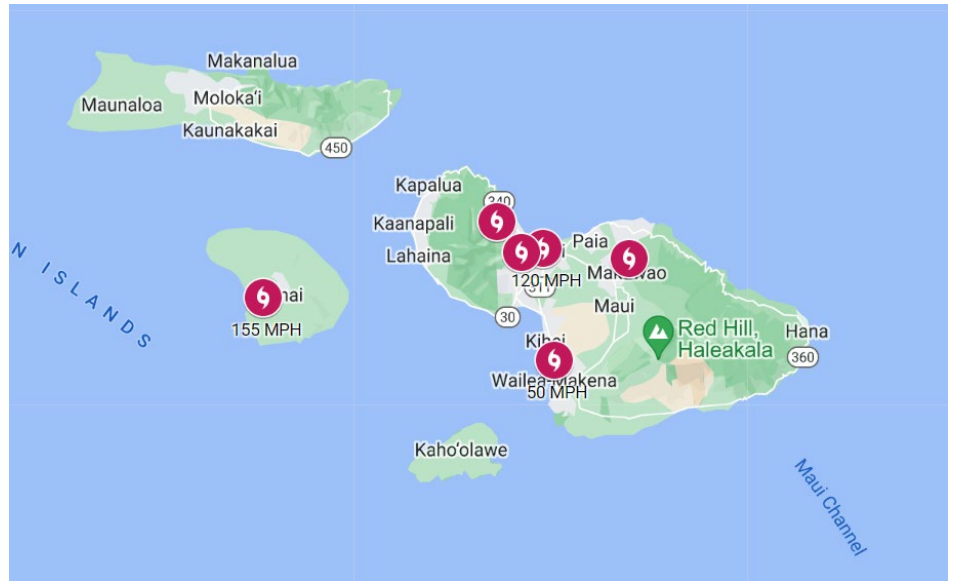


**Hawaii:**
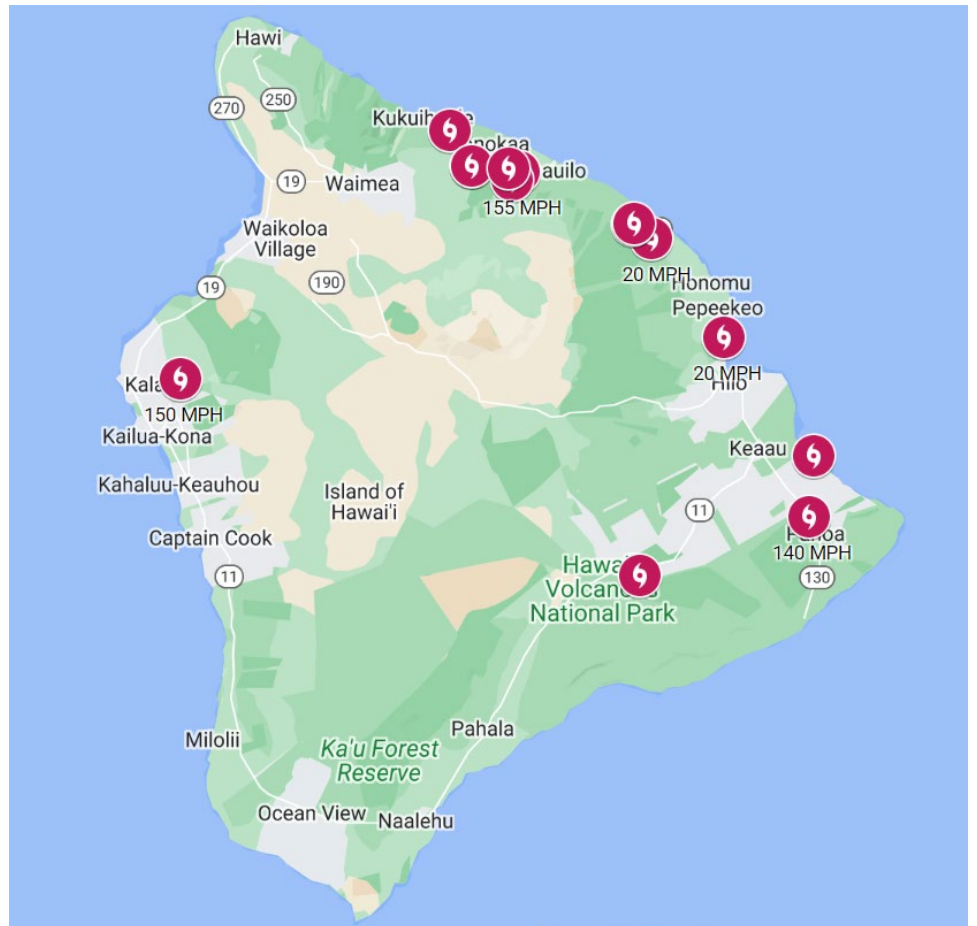
**Injects Assigned:**

| Injects Assigned by County / District: | | |
|---|---|---|
| Kauai | 3 | |
| Oahu | 115 | |
| Windward | | 45 |
| South | | 43 |
| Leeward | | 17 |
| North | | 10 |
| Maui | 29 | |
| Hawaii | 64 | |
| East | | 33 |
| North | | 21 |
| West | | 6 |
| South | | 4 |
| State | 211 | |

**Injects Created:**

| Injects by Type | (Statewide) |
|---|---|
| 87 | ICS-213 Weather Damage Report |
| 18 | ICS-213 Request for Assistance |
| 19 | Field Situation Report |
| 35 | Hawaii Hurricane Daily Shelter Report |
| 72 | Weather - Hurricane Report |
| 29 | ACS-SitRep |
| 7 | ACS-RFA |
| 0 | ACS-RFI |
| 8 | Other |
| 275 | Total |

Did you participate?

65 responses



- Yes
- No

95.4%
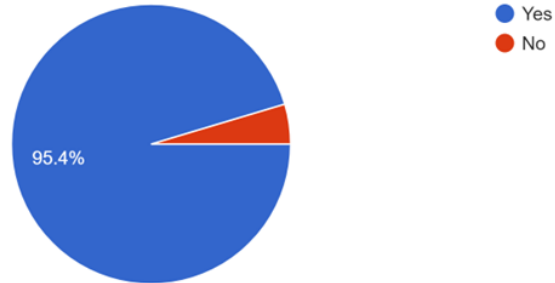
Listened in on HF Frequency/Net

65 responses



- Yes
- No

66.2%

33.8%
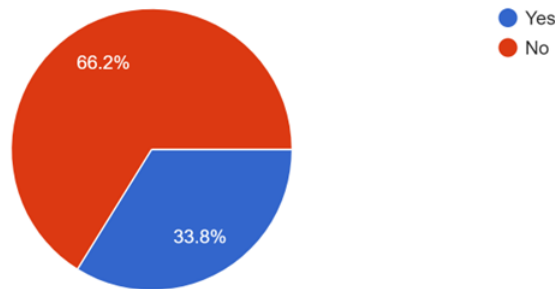
Listened in on a VHF/UHF Frequency/Net

65 responses



- Yes
- No

13.8%

86.2%
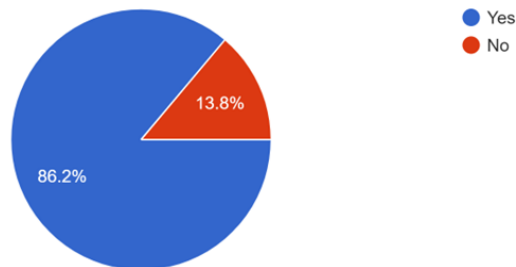
Message Injects (Text scenario sent to you as a basis for message traffic.)
65 responses



- I received 1 or more message inject(s)
- I requested/expected message inject but did not receive any
- I did not expect or request any message injects
- Not Applicable to my position or role

23.1%
67.7%

If you received message Injects, how many did you receive?
46 responses



- One
- Two
- Three or more

54.3%
21.7%
23.9%
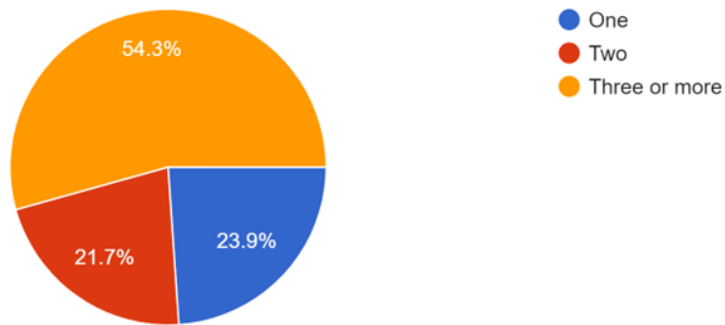
If you passed message traffic, how was it done? (Check all that apply)
58 responses

| Category | Value |
|----------|-------|
| Voice HF | 7 (12.1%) |
| Voice VHF and/or UHF | 23 (39.7%) |
| Winlink | 50 (86.2%) |
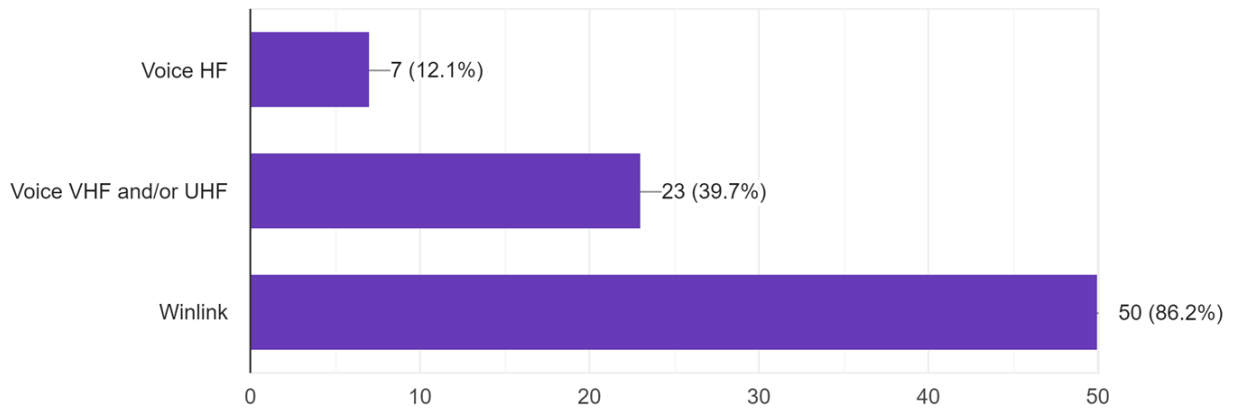
If you used Winlink, what Band/Mode(s) were used? (Check all that apply)
51 responses

| Category | Value |
|----------|-------|
| Winlink HF Gateway - VARA | 8 (15.7%) |
| Winlink VHF/UHF Gateway - VARA | 25 (49%) |
| Winlink HF P2P - VARA | 3 (5.9%) |
| Winlink VHF/UHF P2P VARA | 18 (35.3%) |
| Winlink via AREDN Mesh (RF only) | 1 (2%) |
| Winlink via Telnet (Internet or AREDN Mesh Tunnel) | 19 (37.3%) |
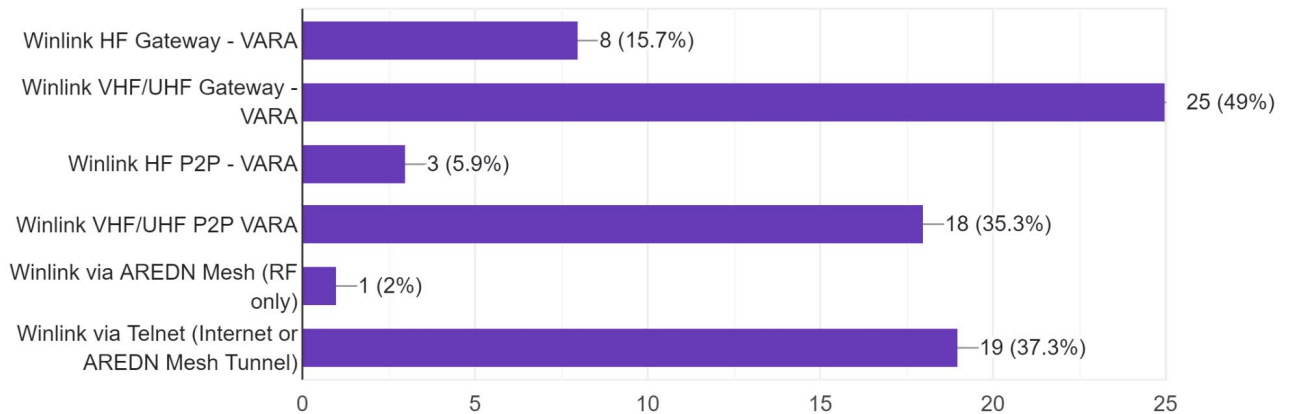
Hub Station (Acted as Net Control Station or assisted at the same location.)
65 responses



- Yes
- No

75.4%

24.6%
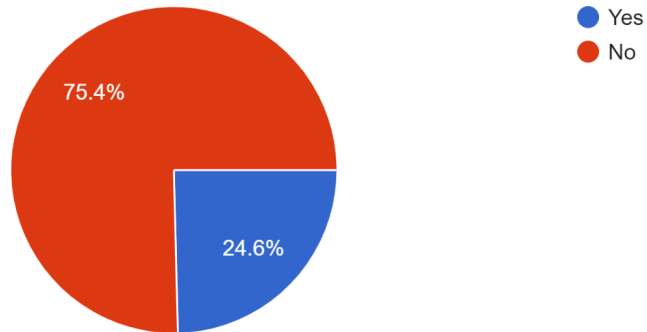
Relay station (Received traffic and moved it forward to/towards an EOC via any mode)
65 responses



- Yes
- No

73.8%

26.2%
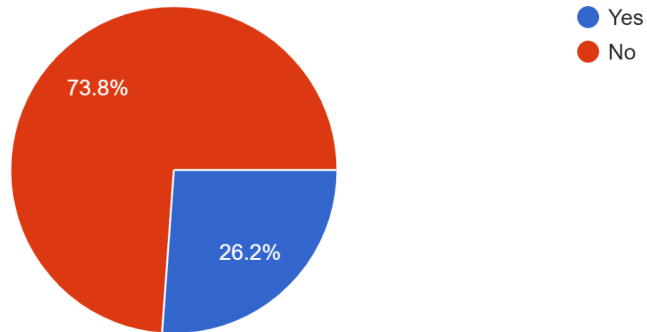
EOC or ACS Operations (Any role)

65 responses

● Yes
● No

89.2%

10.8%
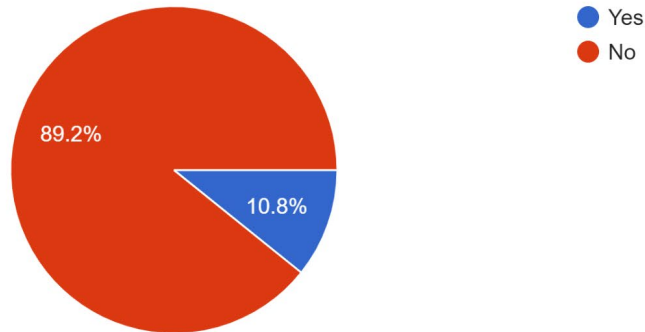
**Access to Documentation:**

## Percent answering "Yes"

| | 92.2 | 81.3 | 87.5 | 92.3 | 81 |
|---|---|---|---|---|---|
| | Access to COMEX Docs prior to drill | Read & reviewed Situation Manual prior to drill | Reviewed Player Quick Reference | Reviewed Participant Timeline Checklist | Reviewed IAP prior to the drill |
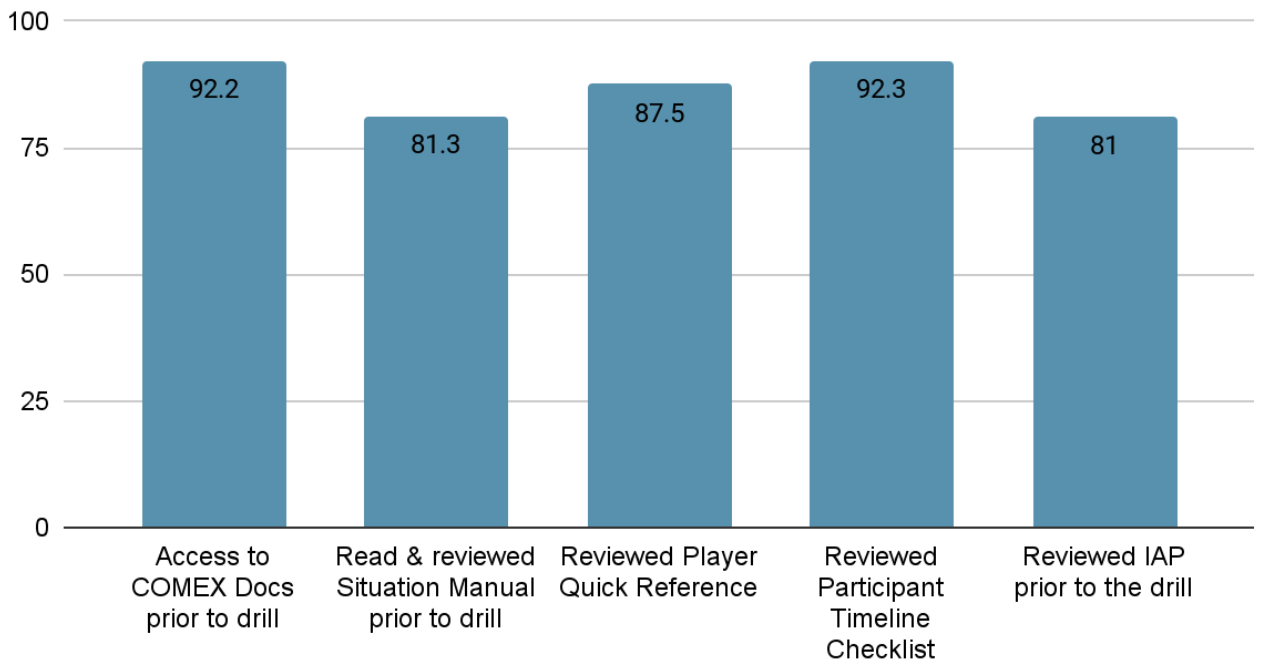
Did you read/review the ICS-204 for your area prior to the COMEX?
61 responses
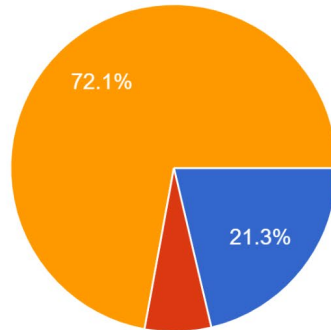


- ● I did not review the ICS-204
- ● I reviewed the ICS-204 but did not fully understand it
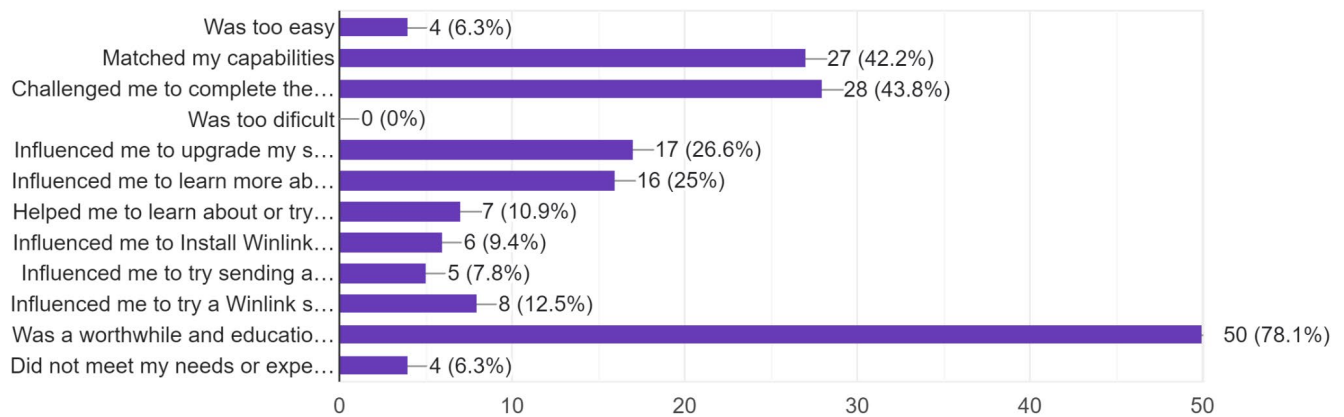- ● I reviewed and understood the ICS-204

Did you read/review the ICS-205 for your area prior to the COMEX?
62 responses
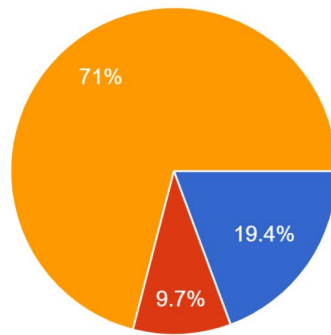


- ● I did not review the ICS-205
- ● I reviewed the ICS-205 but did not fully understand it
- ● I reviewed and understood the ICS-205

## ICS-309  Communications Log (Check all that apply)

61 responses

| Response | Count |
|---|---|
| I was able to find the ICS-309 Communications Log but did n… | 11 (18%) |
| I had trouble understanding and completing the ICS-309 Comm… | 5 (8.2%) |
| I was able to understand and completed the ICS-309 Comm… | 18 (29.5%) |
| I completed my ICS-309 log and sent a copy to my DEC or a me… | 29 (47.5%) |
| I have no idea what the ICS-309 log is for or why it is important. | 6 (9.8%) |
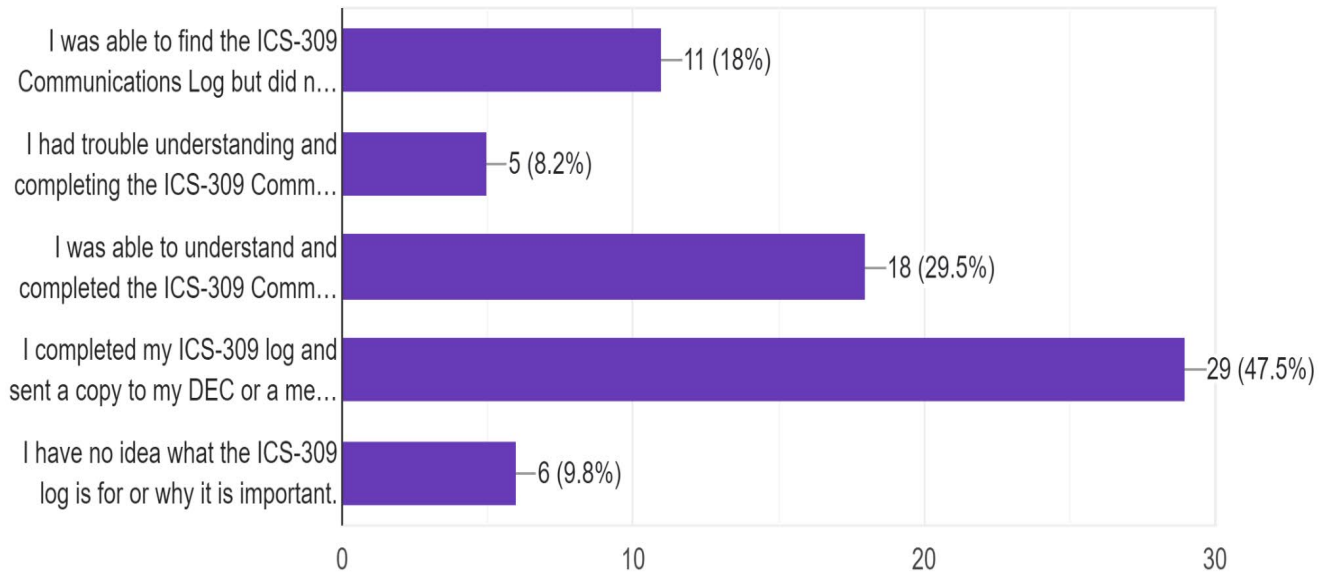
## Overall I think that the July 16th ARES COMEX: (Check all that apply)

64 responses

| Response | Count |
|---|---|
| Was too easy | 4 (6.3%) |
| Matched my capabilities | 27 (42.2%) |
| Challenged me to complete the… | 28 (43.8%) |
| Was too dificult | 0 (0%) |
| Influenced me to upgrade my s… | 17 (26.6%) |
| Influenced me to learn more ab… | 16 (25%) |
| Helped me to learn about or try… | 7 (10.9%) |
| Influenced me to Install Winlink… | 6 (9.4%) |
| Influenced me to try sending a… | 5 (7.8%) |
| Influenced me to try a Winlink s… | 8 (12.5%) |
| Was a worthwhile and educatio… | 50 (78.1%) |
| Did not meet my needs or expe… | 4 (6.3%) |

**Comments on COMEX Documentation and Planning:**

- We were not warned ahead of time to not send the pdf 309 via RF.
- My role was to staff the winlink computer//radio and coordinate on VHF with verbal tactical unformatted (informal) messages. Three Form 309 generated, one for voice VHF, one for Winlink and one for DMR.
- Documentation was outstanding
- it was fine as presented
- I understand the form is from CD, but check boxes would be much more effective
- ICS 309 is hard to use and slow
- Went smoother than in April. The inject process needs more work, and to be simplified.
- Re: Inject ID no. 120 that I received. I believe there were some misspelling of the two streets mentioned. (Kinau and Keaau Streets)
- There were no instructions as to whom to send the ICS-309 nor complete it at all
- I realize it's more labor intensive, but I'd rather receive information about what is required of my participation, than the whole organization and their roles. For Winlink/voice traffic, this is what's required or requested of me. If/when I became CEC or DEC is when I'd need their description of duties. The information provided was good, but overwhelming for a new or casual operator.
- I was confused about the difference between the comm log and the activities log.
- It was a good experience for me to receive and respond to WinLink messages and to get better at doing that in a timely manner!
- GREAT JOB! Learning and having fun! Mahalo
- I was informed by more than one radio operator that the documentation was intimidating. Especially to hams who were just starting in Emergency Communications.
- This was my first participation and basically followed the limited documentation I had (ie- checklist and 1 inject). While this was a good exercise for me to learn how winlink reports are sent, I would like to know my procedures in the case of an actual emergency when there are no pre-planned times and recipients listed for reports to be sent. I recall the frantic response my wife and I went through over a decade ago when there was a threat of a tsunami reaching my home. At 2:30 or 3am we were awakened with a warning and spent time trying to figure out what hard drives, computers, personal items to take with us during our evacuation. I try to correlate this with what I would be doing with operating an RMS Gateway or trying to relay emergency communications. I would not be bothered with trying to figure out who could get a pdf report or how to correctly configure it. I'd be more interested in getting the heck out of harm's way.
- Consider assigning separate VARA P2P and voice frequencies to avoid interference.
- Last exercise was a little more detailed on what to say like "this is a test" did not have any information this time. I know it should be a good practice to do but someone new like me had no direction in doing so. This is my 2nd time doing this and it was fun. Would like to see an example of how a COMEX document would look like, filled out.
- COMEX docs were thorough. In weekly WINLINK drills, we also get directions such as what exercise name to use in, e.g., Check-in et al, forms, yet that wasn't clear in this

one. A DEC said to use 2022 Makani 'Ino COMEX, then I saw on a COMEX document the word DRILL vs COMEX. I used COMEX. The COMEX docs also didn't stress to clearly and often state "this is an Exercise," or maybe it did and I missed that, in which case ignore this. For Hawaii County, we WINLINK users were told to send reports to HCCDA. This was confusing. HCCDA is the agency, yet apparently it is also their (new) call sign for WINLINK purposes. None of this is a deal breaker, just attention to detail nuances. On the "yay" side, WINLINK messages were quickly acknowledged by HCCDA and respective DEC.

- If you would, for the future, please put out either YOUTUBE or some other video on "real-time filling out of an ICS-309..." Or maybe two videos. I've filled out several in various exercises and still find it challenging to look readable/usable. Again, it could just be me - I normally am a HUB using a hand mike, writing and/or typing. Just a suggestion.

- Thank you for running these COMEXs/DRILLS, and the well-thought out supporting documentation. The effort behind putting these on is tremendous.

- Well done, Planners and the participants.

- Overall, the documentation and planning was superb. The ICS 204 and 205 forms were clear but some explanatory information could have helped as the start of the exercise approached. The Chain of Command could have been made more clear; it was somewhat confusing to me.

- For the most part, I think it was ok I suppose. Being a new ARES member, and this being my 1st COMEX, I don't think I have much useful feedback, as I am still figuring things out, and have nothing to compare it to.

- I do wish to thank my DEC (Rob Tong) for all the help and information he was able to provide. He did one hell of a job!

- Good exercise, I suggest doing an exercise similar to this once a quarter, minimum twice a year. At least one form, Field Situation Report, when you attach the form it locks the subject field so you can't add a message number.

- Inject distribution software was good as a proof of concept, needs to be improved

- My apologies for not participating. Life really got in the way. I'll try to be more responsive going forward and will study up on Winlink. ... Robyn NH7U

- We were able to transmit more messages and forms versus the previous statewide drill. It was a great exercise and I enjoyed it.

- Message injects were confusing as to what form should be used for what purpose. Injects were formatted like Google forms, giving the impression of highly structured data. The Winlink forms did not match that structure at all. Also it was unclear which inject corresponded to which form. For example there is a ICS 213 form under ICS USA forms but also a HICS213 under HICS (Hawaii ICS?). The inject referenced 213 RFA. There is no 213 RFA form but there is a ICS213RR. The whole thing was just very confusing. There should be a very clear, unique name for each form and perhaps some general guidance about what form is used for what purpose.

- Winlink communication parameters seemed incomplete. a winlink message needs 5 things 1) freq 2) connecting station 3) destination addr 4) mode (reg/p2p) 5) format (form #). not all of this information was easily obtained.

- I am very new to Winlink; still using telnet due to technical difficulties. I had planned to go to the EOC so I could assist, but it sounded like they had enough help. Then the call for 3 more RACES volunteers came in, but I wasn't confident in manning the Winlink station alone.
- Clem Jung helped me in my decision to stay home and got me up to speed in a very short time. I had intended to read all the documents but only skimmed what seemed to be the essentials. Clems emails were concise and informative, enabling me to feel confident that I could manage without too much difficulty.
- He sent me 3 or 4 injects, and I filled out a sitrep on my own. I made a couple of mistakes, but overall was able to complete the assignment.
- Great job everyone!
- Comm Log and Activities Log seemed similar. I only did the Activities Log.
- Spreadsheet for Inject Assignment and Google Form for Inject creation was very useful
- It was fun

**Other comments:**

- We all need to practice passing and receiving messages (verbal and Winlink). The exercise demonstrated to me that we will be quickly overwhelmed in a real disaster.
- winlink check in/out needs callsign field unlocked for hub to file voice to win for 3rd party
- check boxes, less complex, faster, more accurate
- I learned I need more training in these types of exercises.
- an ERD (entity relationship diagram) would help to understand who / organizations are involved. The use of 7088 ssb was not mentioned or its usage for an ARES net / exercise.
- 7088 should be used for general calling freq for use. ARES net is fine. Regular amateur traffic is good and should be encouraged during emergencies, so calling freqs should not be taken over for exercises and should use other freqs.
- Tony did a fabulous job with the Google Docs approach. Like any first attempt in a short time window, it was prone to screw ups by the uninitiated (like me on setting up the inject distribution by gmail) and needs to be streamlined/simplified. And there's a danger of information overload to prospective players in the exercise -- that's worth a discussion.
- Were there a real catastrophe, "formal" networks might not be available for up to 2 days or more.
- From experience with emcomms after Iniki, I feel traffic handling could be improved by greater simplicity. Attempts at complex procedures often failed after Iniki. Specifically, high volume (Am. Red Cross) emergency traffic could not be handled by then-existing formal procedures and available operators. What should operators do when emergency traffic volume exceeds the capacity for formal handling procedures? One or two operators frequently had to pass ten or more urgent HF/VHF messages per hour for several hours, with 12-hr shifts, 7 days/week for 2 weeks.

- I've seen no discussion of this, as drills always have low volume and plenty of time - not representative of high-volume emergency (non-H&W) traffic.
- Possibly introduced in future, a few on the fly injects, traffic forwarding and relaying of traffic, even if only within a district. Players can practice handling traffic under stress/time constraints. Keep the brain busy
- There needs to be more emphasis on technical skills in your questions. It leads us in the direction of book learning. Why wasn't Van's winlink training asked about. Frankly I think it was key to the success of the event. Who participated in selecting the questions?
- I'm in CERT which uses the ICS system.
- Fun
- Needs to be more realistic. Radio traffic only, no internet, emergency power only.
- It was nice to hear one radio operator pass voice traffic over the radio. And for myself, training on how to pass voice messages would be appreciated.
- I practice Winlink on HF or VHF daily. The HF voice tasks were the most challenging due to limited HF relay stations in each district. It worked out, but a HF relay takes more time than the compressed scenario allows. Even so, I do not recommend a longer drill period.
- Great 2nd time doing this, would be great if we could choose our times to check in and give our injects. I was caught off guard again with the time to check in and also getting a 2nd inject to do an hour later.(Which I could not do)
- Related to the prior question, in a former life, I participated in several EOCs yet they were around military installation events (to include 9-11), some earthquakes and one national-level drill. We had in-person ICS training, just don't recall what.
- Winlink and VARA FM P2P is a perishable skill set that needs regular exercising to be effective.
- Each successive ARES COMEX Exercise improves upon the prior. The Makani'Ino documentation and instructions were excellent. I would appreciate a critical assessment of the overall exercise and of my involvement in order to improve my capabilities and build toward future exercises. Looking forward to October. Thank you.
- As far as the "I felt that the COMEX being organized using ICS titles and positions was unclear and/or confusing" question is concerned, I think there is an issue with the excessive use of acronyms. I can't count how many times I had to go back and look up what acronyms stood for what, and it was quite frustrating at times.
- This is just me, but being that an emphasis has been placed on using "plain language" by FEMA, I don't quite understand why they would try to use so many acronyms, however, I also realize that, that it's not you, nor the planning team's fault, and is most likely out of your hands.
- All in all, I think it was a good learning experience that all HAM's should try at least once. As for me, I plan on participating more in future exercises and drills.
- Thanks, and Aloha!
- Please coordinate and do more exercises.
- I'd like to hear more voice traffic in future exercises. Winlink is great and very efficient, but being new to the practical aspects of ham radio, I think I still have a lot to learn

about how to speak on a radio effectively - both just to speak with other hams and particularly during times of emergency. Wording, pace, proper use of pro-words, etc. I'd like to hear them in action so I feel more comfortable. I'd like to practice speaking more. I'd like to be ready to pass voice messages very professionally if the need arises.

- Overall, great drill: the preparation/training beforehand on the forms really helped. I can't wait for October's exercise! Thanks to all the organizers for moving our state's hams forward in becoming more organized and ready for emergencies.
- Will try to wrestle Winlinks to the ground. I kept links to the help material.
- I believe you should have the July 16, 2022 ARES COMMEX instead of the April 16, 2022 mentioned above.
- Overall the exercise was enjoyable. Lots of activity, great voice traffic, etc. The frustrating part was dealing with the Winlink forms, figuring out which is which and what fields should be used. The whole experience felt like being at the DMV.
- inject form details were misaligned with templates because the templates were revised
- Mahalo for the planning and execution of a successful event!
- DECs/CECs need to be discussing the purpose of and how to fill out the ICS-309 logs, and cover the concept that the reporting party referred to on the ACS forms is generally not an amateur radio operator, but in some cases might be. If that is the case then the first amateur radio operator who handles and transmits the message (aka the originating station) and the "reporting party" would be the same person. These topics need to be covered during on-the-air nets, as well as in the email reflectors.
- We used ICS in CERT.
- Too much time spent on Winlink message transmittals.
- Leeward Relay stations WH6GTB and WH6GRO did an excellent job
- I took these courses years ago and needed to review them

**[end of comments from survey, no editing, just spell check]**

## Summary:

- **Still need training on passing voice traffic**

- **Winlink P2P had issues because of geography in many places**

- **Several EOCs had setup issues on Winlink and other equipment issues**

- **Training on which form to use for what message still needed**

- **Logging (ICS 309) is still confusing for some, including what the syntax for each logged item should be, including the Winlink Subject & voice log.**

- **"This is an exercise message," or "This is a simulated damage report," should be used for *every* inject, whether digital or voice.**

## Final Recommendations:

1. **ARES needs a Multi-Year Integrated Preparedness Plan, which depends on a Multi-Year Integrated Training Plan, Exercise Plan and Infrastructure Plan.**

2. **We need active participation at multiple levels and locations to accomplish this.**

3. **The 3 axes of preparedness are Exercises, Infrastructure and Training.**
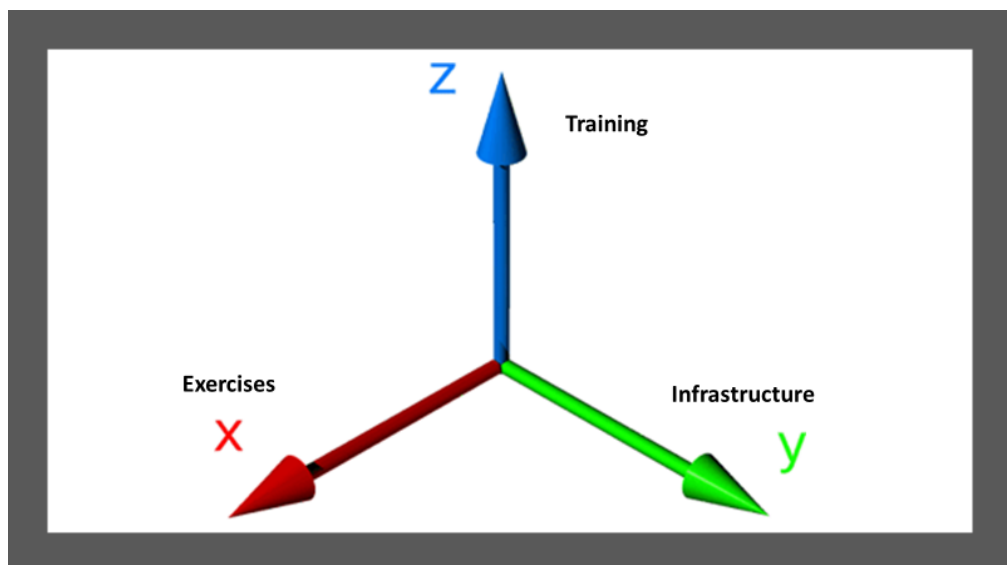
**Notes on the data collected:**

1. Data collected and reported still varied from county to county.

2. A critical source for exercise evaluation is the ICS-309 Communication logs. It is also important for participants and facilitators to complete these logs in a consistent manner.

    a. Establish standard operating guidelines regarding logging.

    b. All stations forward these logs to their DEC, who takes responsibility for assuring they are collected.

    c. DEC forwards logs to the ASEC responsible for operations in their area.

3. The challenges in collecting and reporting results consistently between counties were less this time than in the previous drill as a result of the COMEX planning team developing a statewide Exercise Evaluation Guide (EEG) and Exercise Evaluation Plan, which are 2 critical components of the HSEEP process.
**This can still be improved.**

4. Consistent data collection is important on an ongoing basis as it would allow us to evaluate our progress towards reaching defined goals.

**Lessons Learned & Suggestions for Improvement Planning:**

Summary:

Extensive discussions were held after the April 16th COMEX via nets, phone, video conference, and email. The July 16 Hotwash and survey also yielded more insights. The following recommendations were developed from conversations between COMEX facilitators, participants, and ARES Leadership:

Many areas of focus for improvement were identified. These areas must be broken down into categories and addressed and coordinated via a multi-year integrated preparedness Training Plan in collaboration with and supported by the Hawaii ARES FSO [Field Service Organization], and the ARRL section leadership.

Education and training needs are far beyond what any individual COMEX planning team can address in any single exercise. Greater responsibility for training and exercises needs to be pushed down to the DEC/CEC level. The first step is to define clear goals, objectives, and priorities.

**District & Community Emergency Coordinators: (DECs & CECs)**

(Suggested Goals/objectives)

**1.** Hold weekly ARES Nets in every community. (Several existing nets are held Saturday at

19:00 HST)

- ◦ Discuss Communications Plans, ICS-204 assignments, and your ICS-205 Incident Radio Communications plans.
- ◦ **PACE** [Primary, Alternate, Contingency, and Emergency]. Per the US Army, a PACE Comm plan "designates the order in which an element will move through available communications systems until contact can be established with the desired distant element.
- ◦ Hold periodic voice message handling practices.
- ◦ Nets may begin on repeaters, linked repeaters systems, DMR, etc. However, each community needs to move towards simplex nets as it becomes feasible to do so.
- ◦ Remind stations of available resources such as training videos, equipment discounts, Winlink information, HawaiiARES.net website, and to join the hawaiiares.groups.io reflectors.
- ◦ Ask stations about their questions and concerns, and address them.
- ◦ The ARES nets should not just be social nets.

**2.** Determine the needs of stations in your area and help them to progress.

Guide stations towards identifying training topics and resources. Help them to find

needed equipment, share information about discounts, and let stations know about the

potential support from the ARES FSO [Field Service Organization]. Work with the SEC and

ASECs as well as with local clubs and other groups. Some topics identified include:

- ◦ Antenna build projects. (Especially low-cost VHF/UHF gain and directional antenna options)
- ◦ Hardware and cables for enabling digital modes. (Signal link, RA boards, etc.)
- ◦ Off-grid Power/battery options.
- ◦ Reach out individually to stations having difficulty to assure their participation and success.

**Identified Areas of Focus for Future Improvements:**

**Basic Radio Operation**

- Controlling Radio Features. (Controlling squelch, single vs. dual watch modes, changing transmit power, Timeout Timer, keyboard lockout, radio field programming, etc.)

- Successful Technique: (Talking across and close to the mic, listening to orient your HT to the best location for signal quality and stand still, suggestions to interface HT to a gain antenna, use of a rat tail, best practice for battery charging and storage, etc.)

- Don't wait for operators to ask about these topics. Many won't know enough to know what questions to ask or will be embarrassed to ask. Be proactive in sharing your knowledge.

**Voice Message Handling**

- Use of break tags and pro-words.

- Use 5 word grouping then wait for a reply from the receiving station to continue.

- Speak slowly as if you are writing the words as you speak.

- How to request/provide fills.

- Options for check-in, and accessing the frequency on a busy net.

- Choosing an appropriate tactical call sign.

- Use of tactical call signs versus FCC ID requirements.

- Guidance on message priority determination. (Emergency, Priority, Routine)

- Assisting as a relay, encouraging frequency and band agility.

- Using good judgment to meet the needs of the situation at hand. (There are few ironclad rules, but lots of guidelines and best practices.)

**Logging Transmissions: (ICS-309)**

- Educate stations as to why we log. (Logs allow us to maintain situational awareness, assure message exchange was completed, maintain a record for continuity of operations in the next operational period, aid leadership in communication planning, and logs help us all to cover our okole.)

- Educate stations on what to log and the syntax of a good 309 entry, both for Winlink [subject line] and manual voice logs.

○ Log check-ins, check-outs, band condition reports, & relays. Log anything you would not wish to forget or that others may need to know about.

○ Discuss the Logging of routine & tactical traffic versus formal traffic which uses a separate form. (e.g. ICS-213)

● Hub & Spoke Operation: Maintain a voice log of traffic (from/to spoke) versus the Digital (Winlink) log. Hubs need to maintain and submit 2 logs.

● Educate stations as to why we need to forward logs up the chain to CEC, DEC, COMEX planning team, or served agencies. How should we forward the logs?

**Use of Digital Modes:**

1. Stations will always need to start with a focus on basic radio operation, successful RF techniques, and voice messaging handling. This will continue to be the foundation of amateur radio, and our skills must be built upon a foundation that includes this knowledge. We are not just "Appliance operators."

2. Winlink is an important digital mode with many different options and capabilities. Regular and ongoing exercise and practice are required to gain the skill set needed to make the most of it. It is fine to start with Winlink Telnet over the Internet, but if stations do not progress into RF modes, there is little value.

3. We encourage stations to move into Winlink Radio mail and other digital modes as they reach a point in the hobby where they can start to understand the benefits. If it is pushed too soon, people may become overwhelmed, disinterested, frustrated, and are unlikely to understand how it is any different than Internet email.

4. In the July exercise we used Winlink Gateways for certain parts of the traffic to KH6SW and the American Red Cross Shelter leads in each county.  Rapidly switching from one mode to another was challenging at times for some operators.

5. There are other modes besides Winlink. (FLDigi, JS8 Call, APRS, AREDN Mesh, etc.) A nearly exclusive focus on Winlink alone threatens to reduce participation in ARES to the point where we will not be able to be effective in providing disaster communications.

**Guidance, Goals, & Objectives for the COMEX Planning Team Level:**

1. The multi-year integrated preparedness plan should limit the scope of the exercise enough to allow the exercise planning team to focus on creating specific "SMART" objectives. Assure that you have a clear consensus and buy-in from ARES leadership as to the defined goals, objectives, and scope of the exercise early on in the planning process.

2. Push back on "scope creep." There will be a wide variety of influences pushing your team towards embracing or focusing on tasks and goals that may not be within the defined scope of your exercise. This will inevitably lead to the missing of deadlines, require a greater amount of time to complete the planning process, and can lead to the burnout of volunteers.

3. Involve DECs and CECs often and early on. Focus on bringing them on board, give clear instructions and objectives, review their progress, and include them in major planning meetings, especially the mid-term and final planning meetings.

**Efforts, Goals, & Objectives at Hawaii ARES FSO, SEC Level:**
(Many of these efforts are currently ongoing)

● Appoint DECs on each island who will actively engage with the Amateur Radio Community and who will support and participate in our training and exercises.

● Encourage and assist DECs in developing and appointing CECs who will actively engage in training and mentoring activities for stations in their communities.
  ○ As ARES membership increases, assure that each DEC and CEC maintains a manageable span of control.
  ○ The CEC's role includes assisting the DEC in developing skilled operators in their area and acting as a clearinghouse to identify training needs and provide information, training resources, and opportunities.

● Maintain a central "Catalog" of training, informational, and technical resources: (Hawaii ARES Website)
  ○ Include links to a variety of relevant training on Video platforms. (Youtube, Vimeo, etc.)
  ○ Maintain and publish a statewide communications plan (ICS 204, 205) for applicable bands and modes.

○ Host ICS-204 Assignment list (Hubs, spokes, designated relay stations) for each district. Encourage each DEC and CEC to be responsible for developing, updating, and signing off on this Document.

○ Host the ICS-205 Incident Radio Communications Plan for each district.

● Encourage each DEC and CEC to coordinate with local stations to develop a plan for Primary, Alternate, Contingency, and Emergency Communication Pathways as needed.)

● Maintain multiple methods of contact and frequent communications with DECs and CECs. (Hawaiiares.groups.io, website, email, nets, etc.) Our leaders need to feel that they have the resources and support they need to be successful.

● Establish MOUs, MOAs, and SOGs with served agencies, and other groups involved in disaster preparedness, response, and recovery. Assist local ARES leaders in developing these relationships.

**Overview of HSEEP Process and ICS Forms:**

**HSEEP Initial Steps:**

◦ Engage Senior Leadership
◦ Set Preparedness Priorities
◦ Hold Integrated Preparedness Planning Workshop
◦ Develop an Integrated Preparedness Plan

**Aspects of a Multi-Year Integrated Preparedness Plan:**

◦ The IPP will provide a "road map" towards achieving our specific Hawaii ARES FSO long-term goals and objectives, with a focus on training.
◦ Aligns organizational leadership by specifying documented objectives, together with a realistic time frame.
◦ Guides the development of specific exercises by limiting the scope of the exercise, so that the planning team may focus on SMART objectives within that scope.
◦ Goals and objectives break down the broad mission of an organization into manageable pieces. Tie these to desired measurable outcomes, and not necessarily to specific tactics, technologies, or techniques.

**[End of Report]**