

Skywarn  
Simulated Emergency Test (SET) Plan  
Saturday, October 5, 2019  
0900 – 1200 HST

**Introduction:**

Please refer to the SET 2019 Communications Exercise Plan for overview and details.

This document focuses on the aspects of the SET pertaining to the Skywarn program of the National Weather Service (NWS) and will include the scenario as applied to Skywarn, the time frame, the communication parameters and format and samples of messages. Additionally, information will be provided regarding the use of the Mauna Kea 146.72 MHz repeater during its monthly test.

**Skywarn scenario**

In addition to particulars given in the SET 2019 Plan, the collection of and relaying of Severe Weather messages will proceed along a timeline mimicking the progression of damage as the hurricane proceeds along the east facing shores of the Island of Hawaii beginning with impacts to Hilo and then proceeding along the south facing shore and hence up the south shores of the Hawaiian Islands. The Category 4 hurricane at 150 mph will have hurricane force winds extending out 100 miles from its center resulting in hurricane force wind damage to all Hawaiian Islands. The sequence for polling the areas is Big Island east 0915 HST, Big Island west 0935 HST, Maui County 0955 HST, the Island of Oahu 1015 HST, then Kauai 1035 HST. Once called, additional messages from previous areas are still welcome.

At 0900 HST, a preamble and instructions will be given on both VHF and HF. At 0915 HST, the polling of the areas will commence. Every 20 minutes, the next area will be polled and added with Kauai added at 1035 HST. At about 1145 HST, wrap up will commence. The Skywarn portion of the SET will end at 1200 HST



Graphic image showing the path of the hurricane with the areas that received hurricane force winds highlighted.

## **Messages**

Since the purpose for Skywarn is to facilitate NWS's gathering of real-time Severe Weather reports including real-time damage reports for enabling warnings, reports should be communicated as close to real-time as possible. For the SET, this will be simulated, and it is requested that the observed time of the reports be adjusted to make it appear to have occurred recently. Since these reports are for forecast and warning purposes, damage reports requiring follow-up remedial action should be reported additionally to county-level emergency management. Messages should contain call sign, name, Skywarn spotter number, location of observation, the measured values (aka "metrics") and any impacts. If the sender/observer does not have metrics, then only report impacts.

### **Message Format:**

To report, the reporting station would call the Skywarn NCS with this exchange (KH6XYZ is unassigned and is used for demonstration purposes):

"Skywarn, KH6XYZ Weather Report."

"KH6XYZ, go ahead KH6DL"

**"This is an exercise message.** "Skywarn, Severe weather report as follows: KH6XYZ, Kevin, Spotter 430, MORE observed location Hahaione Valley, MORE Observed at 1035 HST, MORE Heavy Rain rate 2 inches per hour and continuing, MORE Wind east at 55 mph, Gusts to 75 mph. MORE Impacts: Hahaione St. drainage canal MORE is one foot from overflowing, MORE severe ponding on roads, MORE trees thrashing violently, MORE shed roof blown. End of message – no more (or one more or whatever the count is.)" **This is an exercise message"**

With each ending of the section transmitted and handed over with MORE, the receiving station would ask for fills or answer back "Roger" or "Copy" which would indicate for the sender to continue with the messages. Since the passing of messages is on simplex with no link or repeater delay, the exchange can proceed quickly and only require Pro Words or Phrases when required. If the sending station is too fast, the receiver can, at a break, say the Pro Phrase, "Speak Slower." *Keep it business-like and the social niceties to the bare minimum.*

**Logging:** Radio transmissions are logged on an [ICS 309 form](#) and activities are logged on an [ICS 214 Activity Log](#).

Here is an example of a written ICS 309 entry:

(time of exchange), KH6XYZ, Kevin, 430, Hahaione Valley, obs 1035 HST, 2" per hr continuing, wind E55G75. Impacts Hahaione St drainage canal 1' from overflowing, severe ponding on roads, trees thrashing violently, shed roof blown. (queried and stated he passed to O EOC.)

Log it like this example or something similar so that any trained person can read it. The focus is on recording accurately the Essential Elements of Information (EEI), not necessarily each word. Do not record or write down Pro Words.

### **Communication modes and frequencies:**

Since the scenario has **no internet** (i.e., no email, Winlink is separate) and **no telephone** other than sat phones. Amateur Radio communications will be via

146.475 MHz simplex and 446.500 MHz. For HF, 7084kHz LSB ssb and data, 3884 kHz phone/LSB and Data on 3564 kHz with the appropriate side band will be used as band conditions permit. Relaying stations may also use 5346.5 kHz phone SSB/data USB and 1884 kHz LSB SSB/Data.

For VHF/UHF, messages via voice are encouraged to use the aforementioned format and may use the forms from FLDIGI and Winlink as prompts. The tactical call sign of "Skywarn" will be used. KH6SW will not be used. The criteria for reporting a Skywarn observation may be found at their website: <https://www.weather.gov/hfo/skywarn>

**Please note:** FLDIGI and Winlink messages will be taken as much as possible. The address for Winlink usage is [KH6DL@winlink.org](mailto:KH6DL@winlink.org). Winlink P2P will use ARDOP. Please establish contact with your recipient before transmitting FLDIGI messages.

The forms for FLDIGI (Storm Report, Severe WX, Hurricane) and Winlink (Severe WX Report.txt) may be found in Forms or templates of each application. Please familiarize yourself with these forms prior to the event. Please delete N/A fields and other unnecessary information before sending. Cleaning up the report makes it faster for transmittal, makes it easier for Skywarn volunteers to process and for NWS staff to absorb your data.

## Storm Report form from FLDIGI as a sample:

FLMSG: 4.0.8

File Form Template Config AutoSend ARQ Help

Storm Report file: default.fstm2s

Report Details

Date  Time  --Zone--

State  County

Location

Flood  --Select flooding category--

Hail  --Select Hail size--

High Wind Speed  --Select Wind speed--

Tornado/Funnel cloud  --Select report--

Wind Damage?  --Select Wind Damage Description--

Snow  --Select snow tot--   --Select duration--

Freezing Rain/Icing  --Select ice total--   --Select duration--

Heavy Rain  --Select rainfall total--   --Select duration--

Name  Phone   
Email  Profile  --Select Profile--

Comp MT63-1KL  \*

ARQ   NOT CONNECTED

SEVERE WEATHER REPORT	
Sender	<input type="text"/>
Report Date/Time (local)	<input type="button" value="Click to Add Date/Time"/>
Report Version (Select one):	<input checked="" type="radio"/> Initial <input type="radio"/> Update <input type="radio"/> Final Message
<i>Fill in what you can. This form sends data as plain text to your recipient(s).</i>	
Reporting Party Name	<input type="text"/>
Reporting Party Phone Number	<input type="text"/>
Reporting Party Email Address	<input type="text"/>
EVENT AREA	
State/Province/Region	<input type="text"/>
County	<input type="text"/>
City	<input type="text"/>
Other	<input type="text"/>
GPS Coordinates if available	
OBSERVED EVENT CONDITIONS	
<i>Check All That Apply.</i>	
Flood:	<input type="button" value="Choose"/>
Hail:	<input type="button" value="Choose"/>
High Wind Speed:	<input type="button" value="Choose"/>
<a href="#">View Wind Speed guidelines</a>	
Tornado / Funnel Cloud:	<input type="button" value="Choose"/>
Wind Damage:	<input type="button" value="Choose"/>
Winter Participation:	<input type="button" value="Choose"/>
Snow:	<input type="button" value="Choose"/>
Freezing Rain:	<input type="button" value="Choose"/>
Heavy Rain:	<input type="button" value="Choose"/>
Time period:	<input type="text"/>
Report 1" or greater in an hour and every inch thereafter 2 inches or greater storm total.	
Additional Information or Damage Descriptions (Be Brief) Anything of importance or damages noted. No names or specific addresses	
<input type="button" value="Submit"/>	<input type="button" value="Reset Form"/>
Ver 2.0	

## **Relays:**

Please establish relays (including cross-band repeaters) to Skywarn to convey reports from the neighbor islands and other areas outside of the NWS simplex range. Please keep logging, activity and message documentation (ICS 309, ICS 214 and ICS 213.) which support relaying and reporting.

**Bonus Item:** The Hawaii VOAD (Hawaii State) Mauna Kea 146.72- MHz (PL100.0) will have its monthly test from 1200 – 1300 HST on Saturday, 10/5/19. Skywarn exercise reports may be submitted on this repeater. An Oahu station will be working the Mauna kea repeater directly. Other Hawaii VOAD Member Agencies are encouraged to participate in this event.