



## Hawaii and Pacific Section Report - August 2016



Hi all,

Let's get back to fundamentals sometimes!

I'm as guilty as many wanting to play with new things. Everything in our radio service doesn't have to be the latest automation and state-of-the-art whiz-bang software. We can build things and communicate with basic equipment.

The march of IP technology interfaced to RF gives us the ability to communicate point-to-point with simple hand held equipment. It is convenient, letting us talk to hams anywhere at just about any time without having to learn about ionospheric propagation.

Click [here](#) for a PDF copy of the report

The complexity of software systems connected to Amateur Radio RF is increasing. We can link and unlink repeaters at will and combine them across the globe. Use digital VoIP providing high quality audio. Time-division multiplexing lets us operate multiple channels on a single frequency. Digital algorithms compress voice so our VHF/UHF channels can now be 6.25 kHz. More hams in the same spectrum with Hi-Fi audio!

Remote links give us access to mountain tops we don't have to climb and to stations with 100 foot towers we don't have to build.

All of this requires new software skills, just to maintain the networks. Some of us are lulled into being appliance operators, even though we have the skills to put up emergency stations. We depend on a few very committed and knowledgeable hams to keep the networks and links operating.

*What if Internet or local repeaters are down or the software guru running the links you need is off-island?*

It is good to play "what if" games and practice with basic equipment. Maybe based on the results you tweak the antenna, add a Signalink to the station in the truck for FLDIGI, or add another solar cell and battery to the base station. And do it before an event occurs where it helps communications.

The guys on the Big Island practice this philosophy and they are infecting the rest of us on their "outer islands". The Aulani Hui Amateur Radio club is running their annual VHF/UHF Simplex "Grid Madness" event on Sunday, September 18th, from 1300 to 1700 HST. It is a chance to see how well you can communicate when the fancy technology becomes unavailable in an emergency.

**Check out the "Grid Madness" announcement below and make plans to participate. It is just a few hours operating time. Maybe some work on the station beforehand would be a good idea?**

Aloha es 73,  
Joe Speroni, AHØA  
ARRL Pacific Section, Section Manager

### **— Grid Madness**

Aulani Hui Amateur Repeater Club and event organizers are happy to announce the Third Annual Hawaiian Islands Grid Madness, an event for all hams in the State of Hawaii.

This VHF/UHF activity is designed for FUN, and to test your equipment, coverage and operating skills using simplex FM on 2 meters and 70 cm.

The idea is to contact as many stations in as many Grid Squares as you can, using FM SIMPLEX ONLY.

Enter in HT, Mobile, or Base class. Mark your calendar for Sunday, Sept. 18, from 1300 to 1700 HST.

View/download the info packet from:

<http://gridmadness.blogspot.com>

Please send in your log. You will be helping to build a map of simplex paths for Hawaii! And along with logs, photos would very much be appreciated.

Even one contact gets you a certificate, if you send it in.

Please send comments and questions to AH6KO@arrl.net.

If you can, please help to make this event better by spreading the word via radio nets, meetings, newsletters, web sites, or just tell another ham! On the radio, you can provide the URL above, or just advise anyone interested to Google "Grid Madness".

Grid Squares: Find your six-character Maidenhead Grid Square on the map at [www.qrz.com/gridmapper](http://www.qrz.com/gridmapper).

Please consider using this event as part of your effort to mentor new hams, to teach and practice EMCOMM procedures, or as an on the air social event.

New this year: 1) Points for relay contacts; 2) Extra points for 70 cm and interisland contacts; 3) Exchanges includes a serial number; 4) An award to club with highest total designated score.

We will send an email in early September to all interested hams. Send email addresses to us at AH6KO@arrl.net.

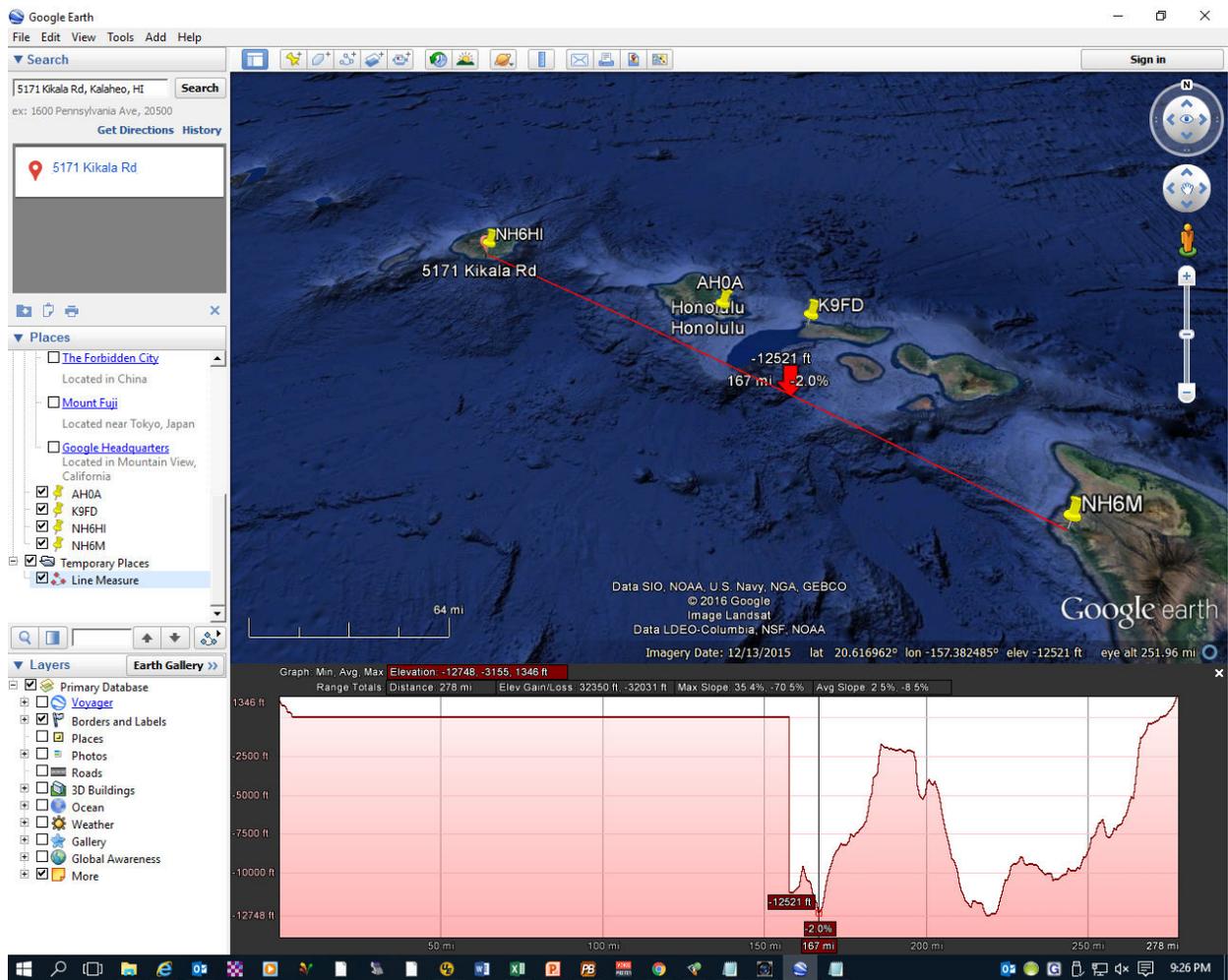
Thanks and 73!

Stan AH6KO (Event Manager)

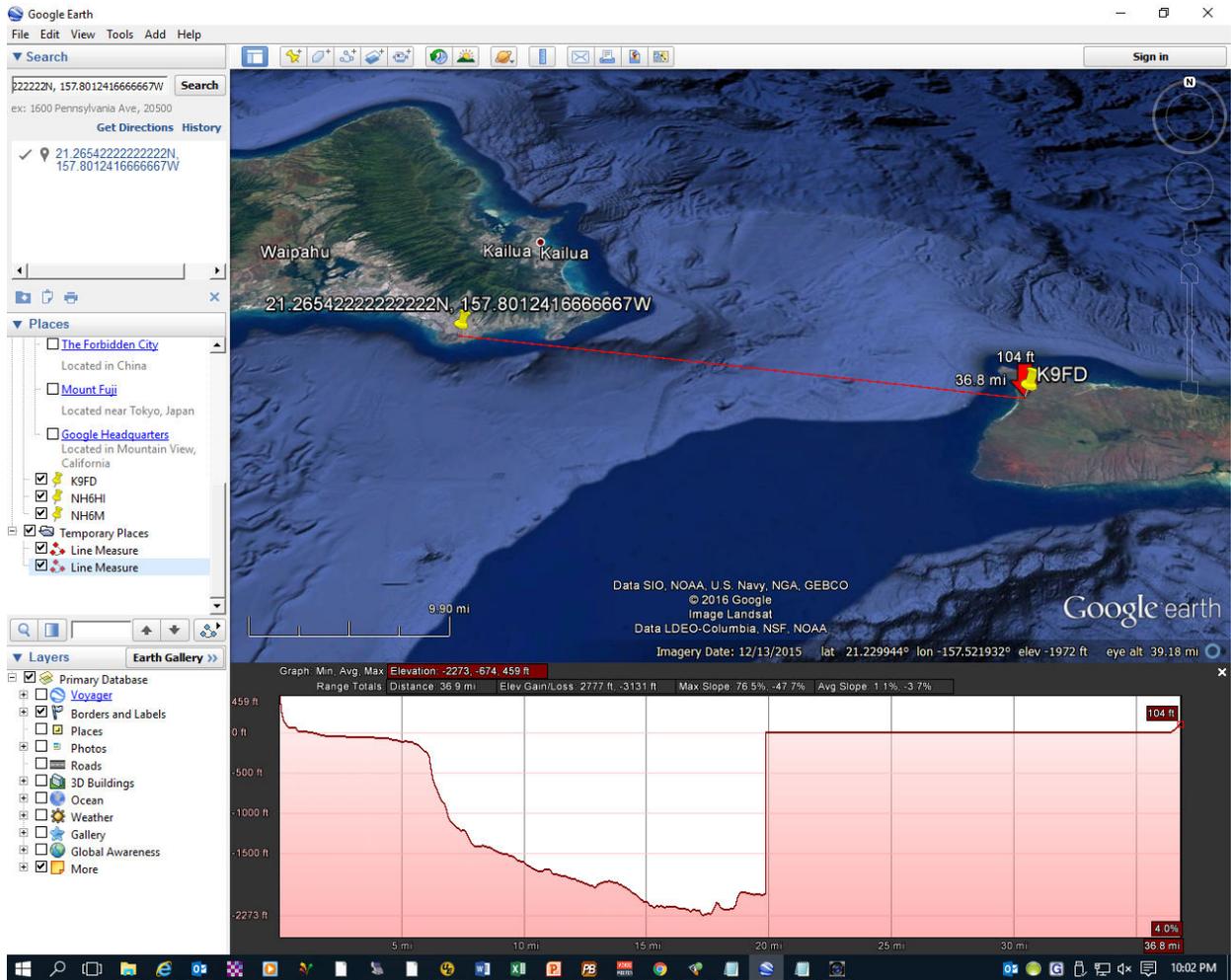
Eric Grabowski KH6CQ (Aulani Hui ARC)

### **Interisland VHF DX**

It's good to see guys experimenting with the limits of VHF simplex. Jim Pilgram (NH6HI) and Dewey Proietti (NH6M) have run a simplex digipeater connection from Kauai to Kailua-Kona, a distance of 280 miles. They are in the process of switching to horizontal polarization and putting up bigger beams with gain to see if the path can be reliable. How's that for VHF DX!



Merv Schweigert (K9FD) on Maui has had luck with an HT to Diamondhead repeaters from Molokai. A few watts with a rubber duck!



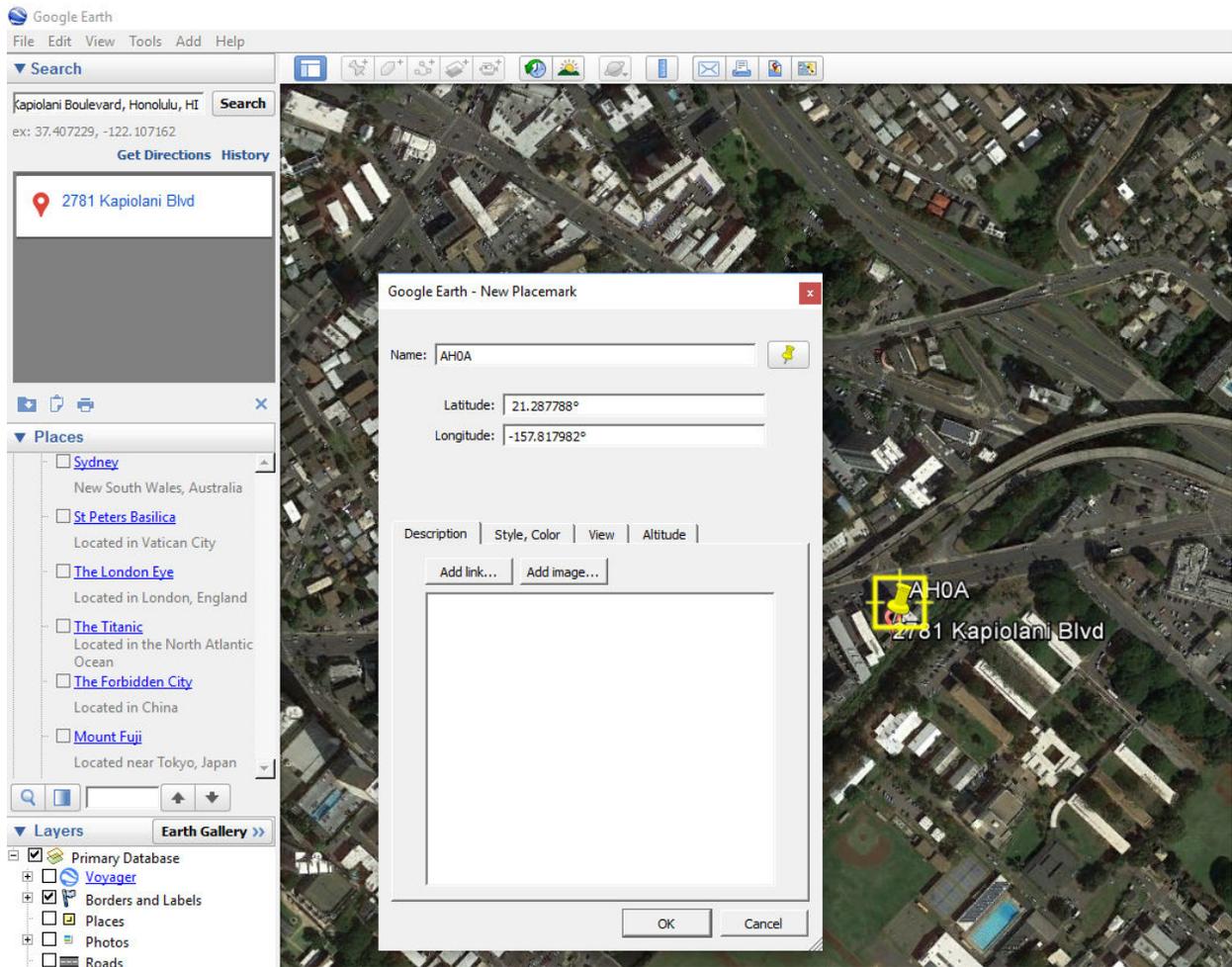
If you're interested in using Google Earth for your own path elevation profiles, there's a quick summary below showing how the above profiles were made.

### [Google Earth Elevation Profile Example](#)

The free program Google Earth has the ability to easily draw paths between two stations. Well, relatively easy if you know the icons to click.

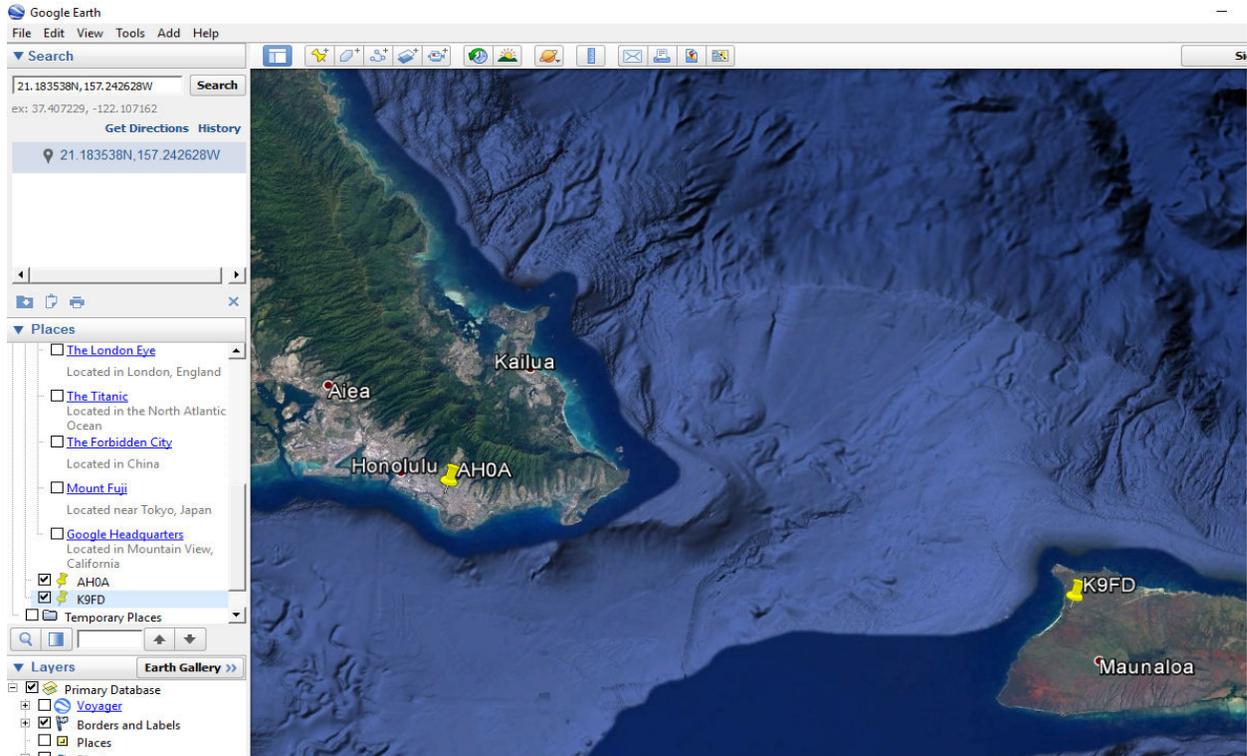
Here's a quick example using the AH0A (Oahu) to K9FD (Molokai) path.

Start Google Earth and enter the address of AH0A into the search bar at the top left. Click the SEARCH icon and after the world stops spinning use the ADD tab at the top to select PLACEMARK to place a tack at the location (type the call sign, in this case AH0A, into the name box for the placemark). If you did it correctly it would look like this,

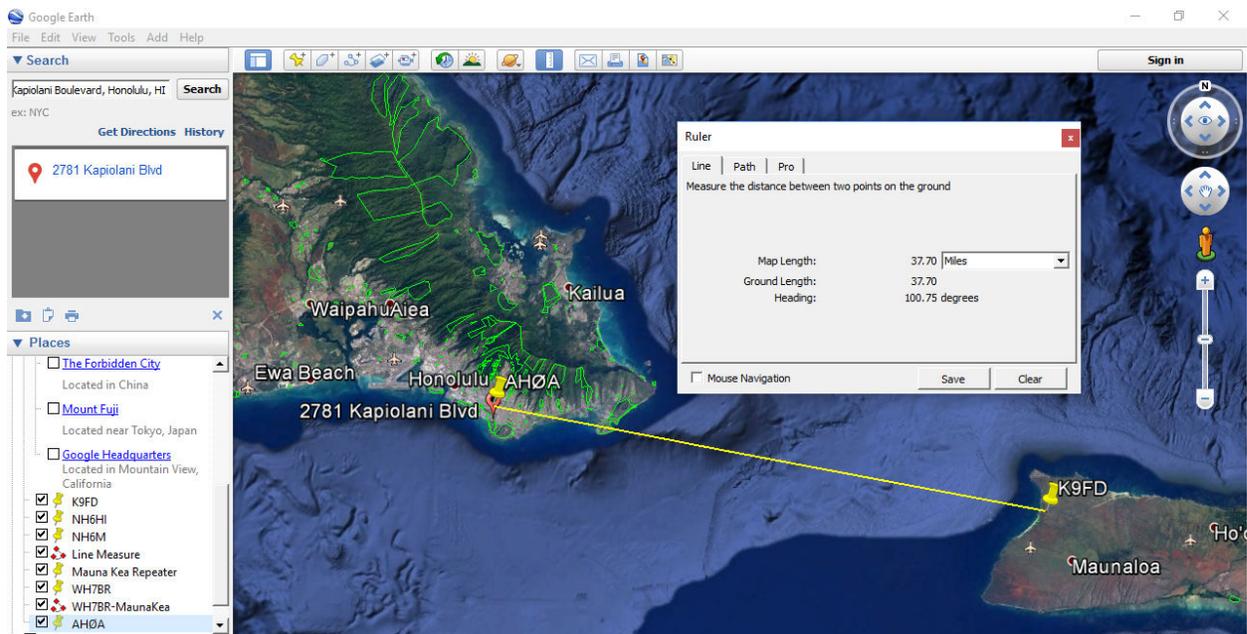


Click OK to save the placemark.

Repeat the process for the second station, K9FD. You can use latitude and longitude if the station does not have an address known to Google. An example of the format is 21.183538N,157.242628W for K9FD. Enter the location, click SEARCH and then ADD, to put a PLACEMARK at the second QTH.

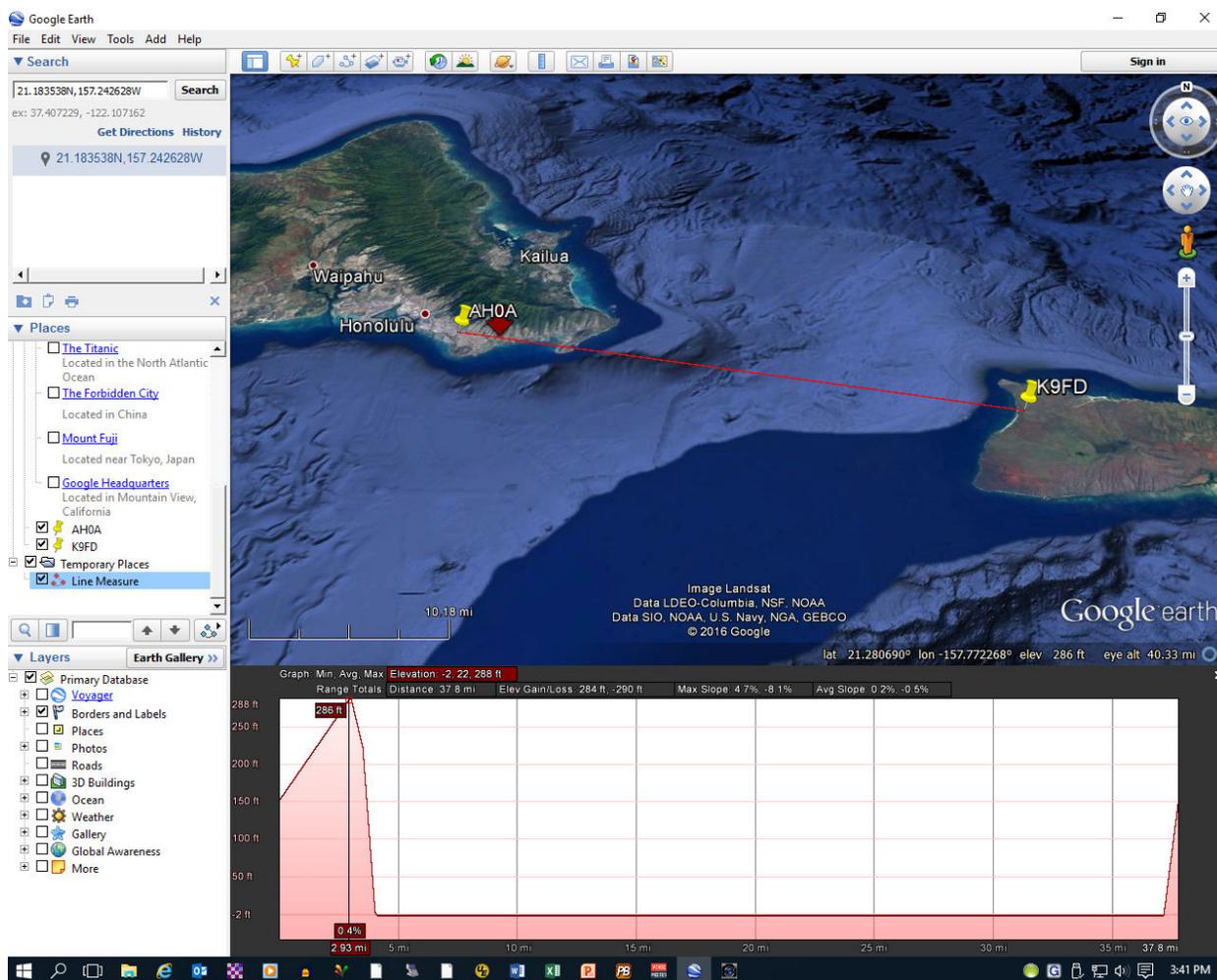


Next we'll draw a line (propagation path) between the two points. Select the TOOLS icon and RULER (and the LINE tab). Click and hold the mouse cursor on the first station's PLACEMARK and drag it to the second one. This will draw a yellow line between the two points.



Click SAVE, turning it red, to make the line permanent.

Then from EDIT click on the second last line "SHOW ELEVATION PROFILE" to display the hills and valleys between the two points on the path.



In this case there is a point 290 feet above AHOA's QTH, about 3 miles out, just west of Hanauma Bay Beach Park. Not too promising but maybe "knife edge propagation" will work. It is only 36 miles. Worth a try!

Google Earth is just one tool that can help plan simplex RF paths.

### **Big Island ARES Activated for Hurricanes Madeline**

As this report was being published, Skywarn was activated for the period August 31st 12:00 to September 1st 22:00. Tentatively Skywarn will be activated a second time on September 2nd at 22:00 HST, depending on the development of hurricane Lester.

In support of Skywarn, Clem Jung (KH7HO) ARES SEC issued a statement, "This is to confirm my phone conversation or my message on your phone this evening that effective immediately I have activated the four ARES Districts on the Island of Hawaii (Big Island) to support each other and any served agencies as the situation develops in your response to Hurricanes Madeline and Lester."

**Hurricane season is a time to remind us that EMCOMM planning is a useful exercise. If we are hit by a major storm, Amateur Radio can become the only link to the outside world. If you are not already a member of ARES, consider joining and developing and practicing emergency communication skills. The Hawaii ARES web site is at,**

## [www.hawaiiARES.info](http://www.hawaiiARES.info)

*Click on the MEMBERS tab to get to the membership enrolment form.*

### **Red Cross "Safe and Well" Web Site**

Kevin Bogan (AH6QO) ARRL representative to State VOAD reminds us the American Red Cross has a "Safe and Well" webpage that we should promote. The page allows survivors to register their status so loved ones and friends can see how they are if an emergency occurs in their area. Of course, this requires the Internet, electricity, so it is not a perfect solution for all situations. Still, it might lighten the ARES message handling load for Health and Welfare traffic.

<http://safeandwell.communityos.org/cms/>

### **ARES WINMOR Seminar on Oahu**

Clem Jung (KH7HO), ARRL SEC reports that "ARES Oahu is holding an equipment setup seminar for Winmor connection to the KH6SP server in Wahiawa on Monday September 19th at the Fleet Reserve (891 Valkenburgh St, Honolulu)."

Ten members will be bringing HF equipment either with internal audio sound card capability (e.g. ICOM 7x00) or an external Signalink unit.

Steve (KH6WG) and Gus (NH7J), both with long experience in using WINMOR with the KH6SP server, will assist hardware and software setup of equipment brought to the seminar. They have mobile stations configured to connect to KH6SP from the Fleet Reserve. Their antennas will be available to share with equipment in the classroom.

In addition to server email, peer-to-peer Winmor connections will be demonstrated and setup.

This training event is patterned after the successful seminars held by the group organized by Joe Crable (KH7AX) on the Kona side of the Big Island.

A YouTube video that explains the structure of this global Amateur Radio email system is well worth watching!

[http://youtu.be/1v330\\_1dezv](http://youtu.be/1v330_1dezv)

Anyone wanting to participate by bringing equipment or just a laptop to setup and operate one of the transceivers to be configured, drop Steve an email (kh6wg@arrl.net) to see if space is still available for the event.

### **A Strategy for Adding a Digipeater to a VHF Repeater**

Eric Gabrowski (KH6CQ), the ARES North Hawaii County District Emergency Coordinator, has a long commitment to emergency communications and service to his community.

One idea he has pursued is adding digital packet coverage to the same area already served by analog FM repeaters. He investigated how to economically install a digipeater at a two-meter repeater site using the same feedline and antenna. Doing this virtually guarantees the geographical area covered by both modes would be identical.

Eric went at it quite scientifically and produced an article that well documents how to do it including resulting frequency response measurements.

With the growing interest in Winlink and support in their RMS packet software, this may be a way to add email to the areas covered by your local FM repeater.

[www.HawaiiARRL.info/stories/2016/08/VHF-FMrepeater+Digipeater.pdf](http://www.HawaiiARRL.info/stories/2016/08/VHF-FMrepeater+Digipeater.pdf)

Eric has been at EMCOMM a long time and built up quite a few worthwhile projects that may interest you. Check them out at,

[www.hamradioandmore.com/hamtips.htm](http://www.hamradioandmore.com/hamtips.htm)

### **Intruders on 30 Meters**

Intruders have apparently identified the 30-meter band as good for intermediate distance propagation. We have reports of USB QRM - intruders infesting the band with S9 plus signals. One recent report says "he has never heard it as bad as this".

Intruders have been heard on 10101, 10116, 10121 and 10133 kHz, mostly just after sunrise and before sunset. At times they move a couple kHz.

**Merv (K9FD/KH6), the Pacific Section Intruder Watch Volunteer, has begun monitoring the reported activity. He would like reports from other Hawaii Hams. If you identify any intruder on 30-meters, please email him the following information,**

<b>Information</b>
Date and time (UTC)
Frequency
Mode
Approximate heading of signal
Language being spoken

He could particularly use help with the last item - "Language being spoken". If you or a member of your family can identify the language(s) being used it would be particularly useful in reports to the FCC.

Lastly if you have any way of providing a heading, that information would be useful. The type of antenna used to determine the heading should be included in the report.

Send any information to Merv Schweigert (K9FD/KH6) at [k9fd@flex.com](mailto:k9fd@flex.com).

### **Intruder Watch Report**

**Our thanks to Merv for his August 2016 Intruder Watch report.**

#### **Intruder Watch Report August 2016**

<b>MHZ</b>	<b>UTC</b>	<b>DD</b>	<b>MM</b>	<b>MODE</b>	<b>IDENTIFY</b>
14001	2140	07	08	F1B	
14089	2348	18	08	RADAR	
1410.5	0025	19	08	J3E	
14048	0035	19	08	J3E	
14016	1733	19	08	DIGITAL	
10116	0402	20	08	J3E	
14000	0424	20	08	RADAR	
10118	1707	20	08	J3E	
10133	1708	20	08	J3E	

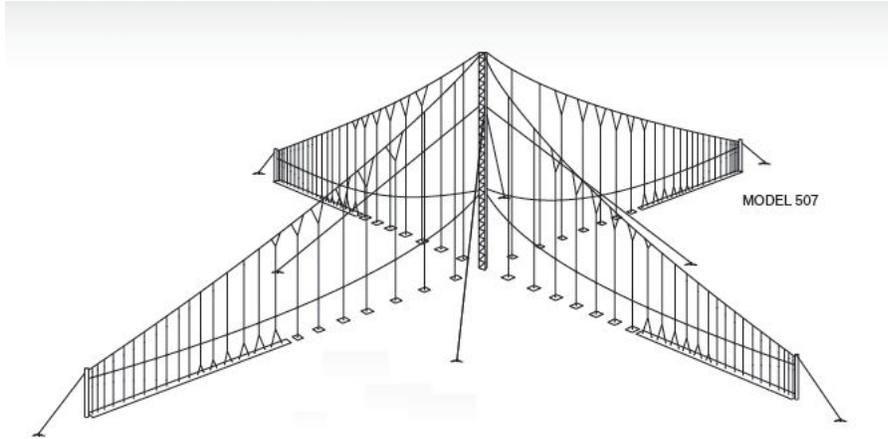
10133	1723	20	08	PSK2A	
14020	1812	20	08	PSK2A	
10133	0350	21	08	J3E	
1814	0428	21	08	A1A	MM9
7000	1711	21	08	RADAR	
14200	0015	22	08	RADAR	
10116	0356	22	08	J3E	
14015	1650	22	08	PSK2A	
10116	0350	23	08	J3E	
18070	0012	24	08	RADAR	
14015	0110	24	08	J3E	
14020	0115	24	08	PSK2A	
14000	0350	24	08	RADAR	
10133	0351	24	08	J3E	
14000	0028	25	08	RADAR	
10101	0406	25	08	J3E	
10133	0407	25	08	J3E	
10121	0357	26	08	J3E	
10133	0358	26	08	J3E	
10134	0432	26	08	J3E	
10101	1816	26	08	J3E	
14035	0056	27	08	J3E	
10101	0420	27	08	J3E	
14028	2211	27	08	J3E	
14048	2213	27	08	J3E	
14048	2307	28	08	J3E	
14060	0241	29	08	RADAR	
14087	2355	30	08	RADAR	
1823	0411	31	08	A1A	OQ6
1828	0438	31	08	A1A	OQ7
10116	1658	31	08	J3E	
14020	1706	31	08	PSK2A	

### **Hawaii WINMOR Statistics Update**

There were four new Hawaii stations using KH6SP this month, making a total of 15 KH6 stations with confirmed WINMOR capability.

KH6UL (20 and 15 meter Pactor) and KH6SP (40, 30 and 17 meter Pactor/Winmor) handled 3,761 emails out of a total of 43,605 by the entire worldwide Winlink system. **Hawaii handled 8.6% of the total worldwide traffic on just two servers.**

Tom's (W2AIT) and Gus' (NH7J) planning of hardware and software to maximize use of the antenna is a big part in making this communication jewel available to Hawaii hams. You have to visit the site to really appreciate the antenna system, but here is a drawing and a few specs that can help.



## Model 507 Specifications

507	
Polarization	Vertical
Directive Gain Relative to Isotropic	6.6 dB at 2.0 9.2 at 2.3 10 dB at 7 MHz 12 dB at 13 MHz and above
Front-to-back Ratio	8.6 dB at 2.3 MHz 15 dB at 7 MHz and above
VSWR	2.0:1 maximum
Environmental Performance	Designed in accordance with EIA Specification RS-222C for loading of 225 km/h (140 mi/h) wind, no ice, 145 km/h (90 mi/h) wind 12mm (1/2") radial ice.

Size and Frequency Coverage							
Model Number	Frequency Range	Height		Length*		Width*	
		ft.	mtr.	ft.	mtr.	ft.	mtr.
507-1-N	2-30 MHz	140	43	600	183	600	183
* Measured from extreme guy points							
507-1-N	2-30 MHz	140	43	600	183	600	183
* Measured from extreme guy points							

Here is the raw data for the servers since records have been kept.

	Jun		Jul		Aug	
Station	Sent	Rcvd	Sent	Rcvd	Sent	Rcvd
40 M	33	53	71	87	106	121
30 M	97	128	40	51	95	119
20 M	1,904	2,751	959	1,470	1,126	1,666
17 M	19	30	24	20	96	118
15 M	96	142	67	157	114	200
<b>Totals &gt;</b>	2149	3104	1161	1785	1537	2224
Grand Total	5253		2946		3761	

It's early days for trend graphs, but we started anyway.

