
	<p><u>Grassroots Emergency Communications Operations</u></p> <p><i>Sticky Notes</i></p> <p>GECO Newsletter</p> <p>Vol. 1 No. 2, 7 Dec 2016</p>	
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<p><i>Ready to Serve and Sustain Our Community</i></p>		

## Holiday Greetings



We send holiday greetings of cheer and good will to all of our ham and non-ham friends. Various individuals and groups have supported our efforts through the past (and previous) years. Their support and encouragement took many forms and sizes. We appreciate all of it very much.

MEWS and GECO originated and continue to be purely grassroots efforts. We do not seek grants or government funding to support our activities. Our festively decorated discone antenna conveys the spirit of the traditional Tannenbaum foretelling the coming of Spring. It also signals

the renewal of our efforts to reaffirm our simple philosophy.

- Money is not always the solution.
- It is always easier to spend someone else's money. With larger bureaucracies, we see this leading to fraud, waste, and abuse.
- We believe in what we do, so we don't mind spending our own money to do it. Thus, we tend to avoid fraud, waste, and abuse because we are careful with our own money.
- We rely on creativity, innovation and adaptive / appropriate technology to solve problems. We make use of equipment and materials on hand. This is wholly consistent with the tradition of amateur radio and our no cost / low cost approach. This fits the operational reality of EmComm in remote areas and places devastated by disasters.
- Grassroots is people to people. It is consistent with the spirit of amateur radio: communicating to create understanding, friendship, and peace. The MEWS and GECO grassroots efforts are non-profit. We aren't legally or formally papered as a non-profit. But our spirit and our operations are done with no profit motivation whatsoever. All MEWS and GECO materials and lessons are available free for individual study. Groups can request permission to use the materials for educational use so long as no charge is levied.

***Best wishes to all for the upcoming new year!***

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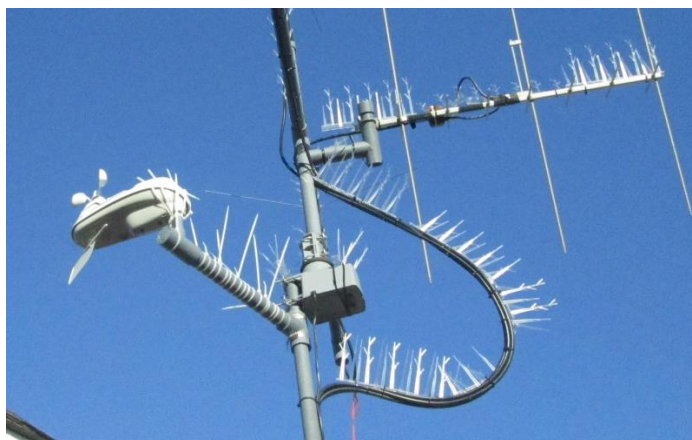
## ***GECO Weather Station is Launched***

On 3 Dec 2016, after two days of rain gauge calibration, the GECO Weather station (KCAALHAM5) in Alhambra, CA commenced operations. The Acurite 5-in-1 Model 01536 station provides nearly real-time weather data from the KI6GIG base station.

The sensor array is located at 28.5 ft. AGL. Bird spikes were applied to reduce the risk of increased bird droppings on the roof and porch.

The GECO weather station reports:

- Outdoor temperature (Max, min, and trend)
  - Heat Index when temp > 80F
  - Dew point when temp < 79F
  - Wind Chill when temp < 40F
- Outdoor humidity (Max, min, trend)
- Wind speed (current, average, peak)
- Wind direction
- Wireless signal strength

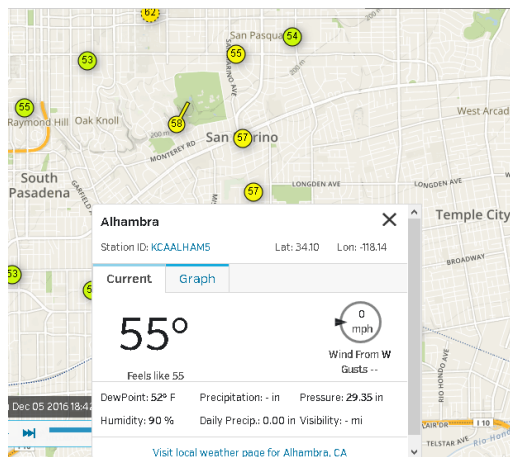


*Spikes deter birds from roosting on the antennas.*

- Indoor temperature (Max, min, and trend)
- Indoor humidity (max, min, trend; comfort index)
- Barometric pressure (current and trend)
- Rainfall (current, total, days since last rain)
- Weather forecast
- Current date and time
- Alarms

The next stage is link the GECO weather station data to an Echolink RF enabled station and to share the data publicly via Weather Underground (<https://www.wunderground.com/>). Many hams using Echolink can freely access local weather data via the internet. However, the actual weather station may be distantly located to the ham station. Now, the GECO station data can be referenced and sent directly from our base station directly. Previously, we were using data from “nearby” stations which were 1-2 miles away. Most of us can recall experiencing rain falling on one place and another place a few blocks away had no rain. 🌧️

## ***GECOWX on Weather Underground***



The GECO weather station is now part of the Weather Underground Personal Weather Station (PWS) network (<https://www.wunderground.com/>). Our station ID is KCAALHAM5. The weather data is streamed to the Weather Underground website. Our station data are accessible to the public online.

This is considered a GECO community service activity. The cost of the weather station equipment, supplies, and station maintenance are paid for out of the pockets of GECO volunteers. The GECOWX station provides base line and calibration for MEWS activities and lessons. 🌱

## ***GECO & MEWS Go to Sarawak, Malaysia***



Choy (9W2PCK) sent a request for MEWS and GECO information to be used in EmComm training for hams in Sarawak. Choy was one of the principal organizers for MyGAREC 2012 in Kuala Lumpur. Greg (HS0ZHM/KI6GIG) was invited to present Basic MEWS (Mobile Emergency Weather Station) and conduct a hands-on training workshop at the conference.

Choy leads a team of 4 Malaysian hams who volunteer their time to train other hams in Malaysia interested in learning EmComm. These volunteer trainers pay all of their own expenses in this effort.

Choy received the full set of MEWS training materials during the MyGAREC 2012 conference. Unfortunately, these were all lost during a flood which inundated his house in 2011. Choy received a training request from SARES (Sarawak Amateur Radio Emergency Services, <https://www.facebook.com/saresswk/?fref=ts>). Greg sent a complete set of MEWS documents prepared for the MyGAREC 2012 conference to support Choy's volunteer efforts. He also included GECO materials about non-radio ground-to-air signals. These materials are free for individual study and educational use.

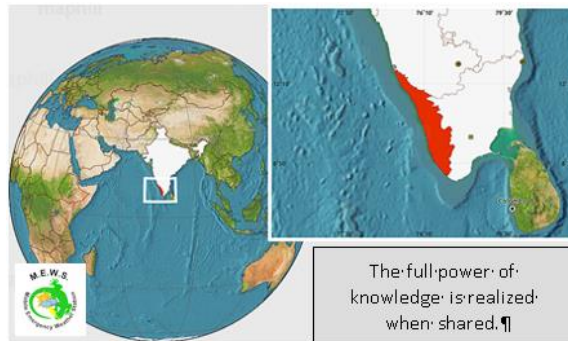
These kinds of free and open exchanges of information are the very foundation of a long tradition of service traditionally associated with international ham radio. Collaboration and mutual support help to improve understanding and peace throughout the world. 🌱

## ***MEWS/GECO Materials Requested from Kerala, India***

In 2016, we received two separate requests for MEWS materials from Kerala, India. Noushad (VU3NMT) works in Dubai, but is actively involved in educating people in Kerala about environmental change, emergency preparedness, and emergency communications.

Abdul (VU2MF) revived contact with us. We had been in regular contact via Echolink from our Rural Training Center-Thailand (RTC-TH) station. In the past, the common denominator for our talks revolved around nutrition and sustainable agriculture. Recently, Abdul expanded his activities to include environmental conservation, emergency preparedness, and emergency communications.

We answered both requests with multiple emails sending PDF attachments of MEWS and GECO lessons. These were provided free of charge for individual or group education on condition they are not sold or reproduced for sale without prior permission. 🌱





## ***GECO HT EmComm Mobile***

The first set up for GECO mobile ops took place. A simple wire bale bracket was clipped to the driver-side air vent on the dashboard of a 2015 Subaru Forester. This allows an HT radio to be hung in place. A dual band (144/440 MHz) mini-magmount whip antenna was placed on the front driver-side corner of the roof rack. This antenna clears the low overhang of the carport at the base station.

Initial SWR tests indicate 1.1 for 144 MHz, and about 1.2-1.3 for 440 MHz. We need to conduct more field tests on the effective range at high power TX.

A larger magmount tilt-down dual band (144/440 MHz) antenna installation is planned. The TSM-1602 antenna is attached to a 5-inch magnetic base. This requires a larger metal base plate on the roof rack. It will keep the antenna in place at highway speeds. (**Note:** The modified “spatula” magmount positions at the corners of the roof rack are for Stop ‘N Op only. They can support mini-magmounts with 1-inch diameter bases ONLY.)

Stop ‘N Op is the preferred GECO vehicle mobile operating mode. It avoids potential “distracted driver” situations due to radio ops while in motion. During disasters, road conditions may be far from ideal. The idea is to find a safe place to park the vehicle. The stop can be momentary. In that case, magmount antennas are used to reduce set up time. For longer stops, other external antennas can be set up for better radio performance. 🌱



*A simple wire bale suspended from a ventilation grid. The HT is easily accessible, yet it is out of the way of any air bag deployment or vehicle operating controls*

## ***Dec Station Upgrades***

Upgrades to the GECO base station in December included the following items:



- a phone autopatch
- an additional cooling fan for the 440 MHz transmitter
- an LED light bar over the 4-bank radio rack. We put a reflective foil card in front of and below the face plate of the 440 MHz receiver. The reflected light compensates for the defunct LCD screen. It is now possible to readily read the radio display.

[**Note:** Nearly all of the equipment is courtesy of Joe (N6WZK). This station is a composite of mutual respect / mutual benefit. Joe has the equipment and know how; we have the site and utility access. 🌱