



# Sticky Notes

GECO Newsletter  
Vol.7, No. 1, Jan 2022

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*Ready to Serve and Sustain Our Community*



## Happy New Year!



Well, 2021 has come and gone, along with another QTH move. This move was drawn out, so we are still slowly unpacking and haven't gotten too far on the new QTH set up. We are also still busy unpacking. That's a prime opportunity to carefully cull and organize in the downsizing effort. It started as a "plain brown wrapper (moving box) Christmas present" and continues to this day.

Looking back over the past 7 years (starting with the abrupt departure from Thailand), a new reality for us is "downsizing" and "right sizing" as the proper lifestyle for us after half to three-quarters of a century on Earth. The material possessions we acquire and accumulate in life probably have little value to others. A quick look at disaster worldwide brings home the point that material things take a back seat to your life and that of loved ones. GECO holds fast to the idea expressed by Bertrand Russell: "A smile happens in a flash, but its memory can last a lifetime." The relationships are the priority over the hardware, fixtures, and material "stuff."

Like most amateurs, we have a long list of things to do and not as much time as we'd like to get them done. On the list: set up the new station, numerous antenna projects, various items needing minor wire/cable/connector repairs, interoperability power connector/harness projects, battery maintenance, etc.

As for the new station set up, hopes are high even though antenna restrictions exist. We've been looking at indoor options to research and explore. We expect operations here will tend to be minimal as the viewing angle is restricted to one compass quadrant. We have yet to locate local repeater ranges and azimuths. The compact portable KM6EON-L EchoLink station may end up being our primary station. With its low 1 W output, it should be ideal for testing and practicing during walks around the complex. The low power combined with the being in a small hollow (about 100 ft lower than the immediate vicinity, makes for a nice quiet place to test this short-range system. Who knows, some folks in the complex might get interested in amateur radio.

On the 2022 GECO wish list is to learn about the area relative to the FEMA Whole Community Approach (of inclusion) in striving toward the National Preparedness Goal. The cities in the area are experiencing rapid growth. 1/3 of the area residents use over 100 different languages at home. This is a major challenge for emergency services. 🌱

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## ***KM6EON-L in Extended Beta Testing***

Joe N6WZK has been working diligently to put KM6EON-L on a more stable platform and low power consumption diet using a raspberry pi. It's been a long, drawn-out process and steep learning curve for Joe. He is a technical HAM who loves to tinker, experiment, and work with his hands. He has a few decades experience in amateur radio and worked with PCs and EchoLink extensively. Going from PCs to the raspberry pi, Joe taught himself Linux.

Greg KI6GIG initially talked with Joe about a portable EchoLink station for field demos at various outdoor activities, training sessions, club meetings, and other public demonstration activities. It had to be compact, low-power consumption, of limited range to minimize interference, and robust to withstand travel and repeated setup-tear down evolutions, run on 12 VDC.

Life has a way of detracting radio amateurs from their true passion for the hobby. So, it took a while for this project to come to fruition. However, the KM6EON-L portable EchoLink Link node (#717536) is undergoing extended Beta

testing. We won't go into the technical details of this unit until the Beta testing is concluded and the results evaluated. The plan is to give a detailed report on the portable station once it is finalized.

For now, we can tell you the transceiver used is a BaoFeng UV5RIII Triband VHF/UHF (2m/1.25m/70cm) running on 1 W TX power. This limits the operating range for portable ops at demos and minimizes potential interference with other local operators. The idea was to limit the range to a classroom setting or to within a few blocks for outdoor demos and public information fairs.

COVID hampered (and continues to hamper) our public service activities. For two years now, it is obvious the world is changing, and we cannot do things the way we did them in the past. Those methods worked then but are not suitable for the new reality. Many trainers and teachers have had to explore virtual, wireless, and remote methods. A big hurdle to this approach is the digital divide. Not everyone has access to the internet, a cell phone, or social media.

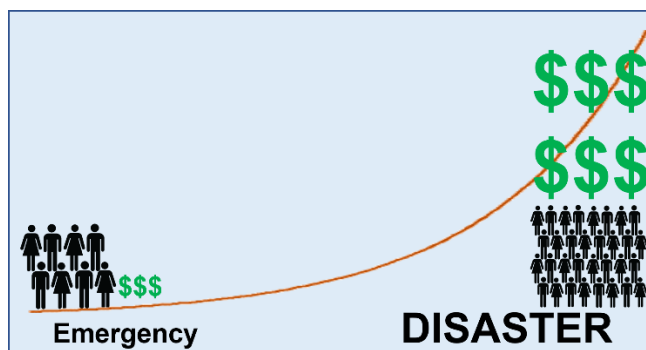
We are brainstorming some ideas for low tech ways to reach young students in small schools in both urban and rural settings using alternative methods to introduce local hazard awareness, emergency preparedness, and emergency communications (both radio and non-radio). We also hope to increase community awareness, proficiency, and literacy in the education; life, physical, and social sciences; Nature and the environment. All of these affect the communities, disaster resilience, and sustainability of people and communities. We hope this may give us a chance to connect students with amateur radio. 🌱



*KM6EON-L EchoLink Link node portable 12 VDC 1W limited range demonstration unit.*

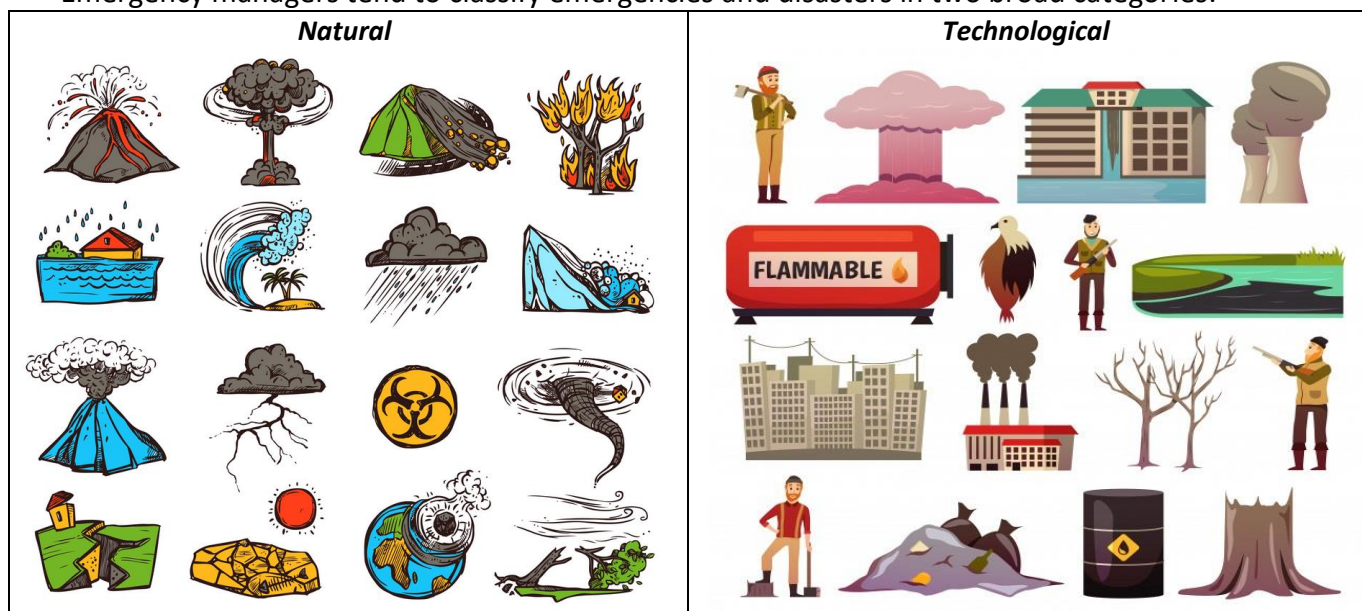
## Emergency Preparedness Reminder

An emergency is any situation when lives or property could be lost. Emergencies tend to be sudden and unexpected events. An emergency is considered a disaster relative to the perceptions of the people experiencing an emergency they think is too much for them or the other people in the area can manage. A lot depends on the culture, country/regulations, level of government, and the local community. This is part of the reason there is no “standard” definition for these terms. Most people have a general idea both words relate to trouble or a problem for people, and that one might be bigger or worse than another. The diagram above is a way to see the difference from an English speaker’s point of view.



*A graphic relationship of an emergency and disaster*

Emergency managers tend to classify emergencies and disasters in two broad categories:



Geographically, an emergency is a local event because it happens somewhere on Earth AND involves people. This is because “emergency” is a word in a language. Language is a human tool used to interact with other humans. Sociology is the study of how humans interact with their environment and other humans. For an emergency manager, if any force of nature impacts a place where no one lives, there is no emergency or disaster because there is no loss of human life nor property.

You might not agree with this approach. Some people are concerned about other living things on Earth, not just the people. But that is a different, larger issue. For this discussion, emergencies and disasters require the involvement of people. When you hear about emergencies and disasters being reported in the news, two items ALWAYS appear: the number of people affected, and the cost in dollars (or other national currency).

GECO’s approach to emergency preparedness uses basic science used in elementary schools. This approach uses local examples in place of textbook problems. This makes the lessons more relevant and practical to the students’ daily lives. 🌱



## Make an Emergency Plan

If you haven't made an emergency plan, do so now (see links at the end of this article). Many emergency preparedness guides mentioned having enough supplies for 72-hours. No specific reason is given. Some sources say help will arrive by that time. But the recent mega disasters (e.g., Katrina, Sandy, etc.) proved the 72-hour figure is not a very dependable one.

GECO's approach focuses on these basic facts:

- 1) No matter how highly advanced or developed a country or city, a disaster can reduce things to the level of zero or of a developing country in a matter of minutes.
- 2) Every emergency plan must have a backup plan. Even if you have the best prepared equipment and supplies cache, a disaster can completely or partially destroy them in a matter of minutes.
- 3) People living in the immediate vicinity of the emergency/disaster incident are the first to know about it. Therefore, they are the first ones to be the incident emergency managers. Unless they communicate with others outside the local area, no one else will know there is a problem.

For these reasons, the GECO Emergency Preparedness effort starts with:

- Knowing the local hazards to know the local vulnerabilities and risks.
- Making an appropriate emergency plan for you/your family (including options to stay and to evacuate).
- Prepare necessary emergency equipment and supplies.
- Knowing local emergency warning systems and procedures; locations of safe zones, community shelters, and local communications systems (e.g., public broadcasting stations, weather, etc.).

The GECO Emergency Preparedness effort starts with:

- 1) Prepare necessary emergency equipment and supplies based on Maslow's Hierarchy of Needs combined with the basic facts of human survival guidelines and your personal preferences (see diagrams below left and right).
- 2) Using the basic human survival guidelines to prepare your emergency materials and supplies for your specific needs. Since everyone is unique, no single list will serve all people.



Maslow's Hierarchy of Needs	Basic Human Survival Guidelines
<p>Initially, GECO Preparedness focuses on the Basic Needs of Maslow's Hierarchy of Needs (Mcleod, 2018).</p>	<p>Depending on your location and situation*, you can expect to live for:</p> <ul style="list-style-type: none"> <li>• 1-3 minutes without air.</li> <li>• 15 minutes to a few hours if you cannot maintain you core body temperature.**</li> <li>• 1-7 days without water.</li> <li>• 1-2 weeks without food.</li> <li>• 1-2 months without shelter.</li> </ul> <p>*Adverse environmental conditions and overall health/injuries affect these guidelines may shorten or lengthen the times indicated. Additionally, individual physical/mental conditions play a role.</p> <p>**Dry clothing is critical here; get out of wet clothes whenever possible. Clothes are a form of personal shelter (Lee, 2009)</p>

Many years ago, the first time I heard the numbers for human survival, it was presented as “the Rule of 3’s” (e.g., 3 min without air, 3 days without water, 3 weeks without food, 3 months without shelter). The information on the previous page is the current advice. [Note: GECO uses the 72-hour period as a starting point because of the critical need for water. From studying past disasters, survivor needs tend to be A) medical care if injured; B) depending on location/season/circumstances, maintain core temperature (shelter) or drinking water; C) field sanitation (e.g., managing wastes to prevent widespread infectious diseases).]

Many people look at references as firm “absolute” values and not as guidelines. For example, the updated guideline indicates your survival is 15 minutes to a few hours if you cannot maintain your core body temperature. All of these survival values depend on various factors (e.g., age, gender, height, weight, general health, type of activity, climate zone, season, weather conditions, location, altitude, clothing, etc.). This is why they are guidelines, and you must “fine tune” them to your particular circumstances.

Many people have limited education in the sciences. As working adults, they may not have the need to use or think about using applied sciences. GECO uses community-based education methods to develop practical outdoor lessons related to emergency preparedness. The earlier students are made aware the better a chance it becomes an “automatic” part of their thinking. The more often they use the information in community projects, the better their familiarity with it. After a while, there are more and more community members who are better prepared for emergencies. The community benefits from having emergency preparedness community service projects completed to build community resilience. More resilient communities can have shorter recovery times. This improves community sustainability in the long-term.

### **How Long Before Resupply?**

The general rule of thumb: the closer you live to a major population center; the faster help may arrive. If you live in a rural or remote area, the longer it will take for help to arrive (if at all). However, there are all kinds of exceptions that can occur. There are cases of earthquakes in major population centers where rescuers were on the scene and feet or inches from a victim but couldn’t reach them in time to save them. In any rescue, the last mile, feet, or inches are sometimes the hardest to complete. The fact is help gets there when it gets there. These are the realities you face until help arrives:

- You can sit and wait.
- You can do all you can to help yourself until outside help arrives.

### **When to Start?**

There is no better time than BEFORE a disaster. Once a disaster begins, it is too late to prepare. Just like any big complex effort, you start with the first step. Most people cannot complete preparing in one step or effort. The key is to start. Then little by little, one step at a time, you will get close to your minimum need. Once that is done, continue to add to it. Each day you delay brings you another day closer to a disastrous result. 🐢

### **Sources of Preparedness Information**

Basic Preparedness (FEMA) [https://www.fema.gov/pdf/areyouready/basic\\_preparedness.pdf](https://www.fema.gov/pdf/areyouready/basic_preparedness.pdf)

Preparedness (NOAA) <https://response.restoration.noaa.gov/disaster-preparedness-program>

Don’t fear preparedness (USGS) <https://response.restoration.noaa.gov/disaster-preparedness-program>

Plan to Prepare <https://www.ready.gov/>

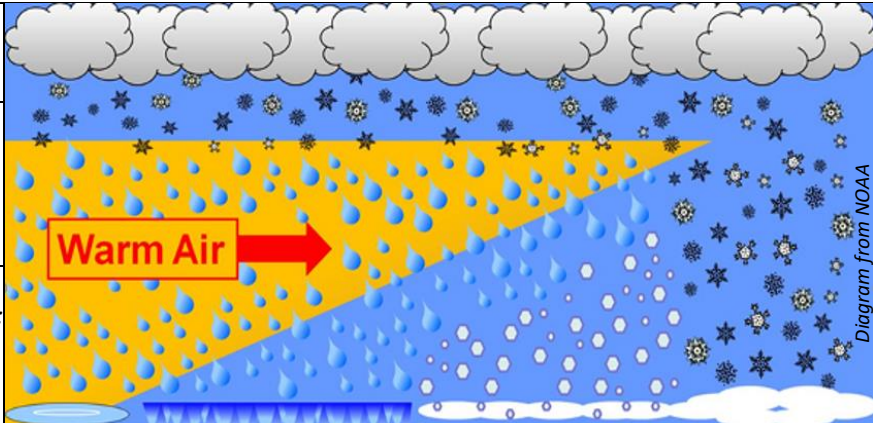
### Selected Reference Sources

- Lee, G. K. (2009). Preparing for emergencies. Neighborhood Link.  
<https://www.neighborhoodlink.com/files/document/529262105>  
 Mcleod, S. (2018, May 21). Maslow's hierarchy of needs. Cañada College.  
<https://canadacollege.edu/dreamers/docs/Maslows-Hierarchy-of-Needs.pdf>

## Winter Precipitation Review

In the last two years, we've moved our QTH from the arid southwest to the humid southeast of the US. We are starting our first winter on the East Coast and just received the first Winter Storm alert. They were expecting subfreezing temperatures, winds gusting from 25-40 mph in the area along with rain, freezing rain, sleet, and snow. These conditions can cause ice buildup on tree branches and power lines. High winds may cause ice-burdened tree branches to break and fall into powerlines causing power outages.

If you aren't familiar with these types of conditions, they can cause problems for amateur radio station outdoor antennas. Rain, freezing rain, sleet, and sleet are all forms of precipitation (i.e., forms of moisture falling from clouds due to the condensation process).

Cloud Snow (solid)						Cloud Snow (solid)	
Melts in warm air to be rain (liquid)						Melts in warm air (liquid) in cool air (liquid)	
In warm air; Rain (liquid)	In cool air; Rain (liquid)					In cold air remains as Snow (solid)	
At ground (liquid) <b>Rain</b>	Freeze at ground (solid) <b>Frz Rain</b>					Freezes in cold air (solid)	
		<b>Rain</b> Liquid at the ground	<b>Freezing Rain</b> Liquid: freezes solid as it touches the ground.	<b>Sleet</b> Solid; freezes in the cold air <b>before</b> reaching the ground	<b>Snow</b> Solid all the way down to the ground	reaches ground (solid) <b>Sleet</b>	reaches ground (solid) <b>Snow</b>

For outdoor antennas, rain can seep into connectors and damage coax cables and antenna connector fittings. Freezing rain, sleet, and snow can accumulate on the antenna, coax, mast, or tower surfaces. The added weight can cause damage especially if high winds exert force on the overweighted antennas/mast/tower assemblies.

For EmComm operators, consider what these winter forms of precipitation mean for your base station preparations for approaching storms. In a disaster, consider what these mean for your emergency plans to shelter-in-place or evacuate. If evacuating, how do these weather conditions affect your evacuation route and options? Do you have any contingencies if you don't get to your planned evacuation destination? In addition to your EmComm equipment, be sure to prepare a winter kit for your vehicle (not only the vehicle, but for your survival in/from the vehicle).

For emergency preparedness, here is a thought to keep in mind: When everything is going well, you may have overlooked something. 🌱

Source: NOAA. (n.d.). Freezing rain and sleet. National Weather Service. Retrieved January 16, 2022, from [https://www.weather.gov/rnk/Measure\\_Icing](https://www.weather.gov/rnk/Measure_Icing)