



# Sticky Notes

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*Ready to Serve and Sustain Our Community*

## GECO EmPrep ala Sun Tzu

While delving through our notes on leadership strategies, we came across notes from "The Art of War" by Sun Tzu (circa 325 BCE). Many of his ideas can be adapted to other situations such as emergency preparedness (EmPrep) for disaster response. Here is our attempt to adapt some of his thoughts by shifting from a military war waging perspective to emergency preparedness and disaster response planning.

Our notes were taken from the English translation of The Art of War by Lionel Giles. We took some literary license in our adaptation while retaining the spirit of Sun Tzu.

**Sun Tzu:** The *Commander* stands for the virtues of wisdom, sincerely, benevolence, courage, and strictness. [The five cardinal Chinese virtues are given as:

- (1) Humanity or benevolence.
- (2) Uprightness of mind.
- (3) Self-respect, self-control, or "proper feeling."
- (4) Wisdom.
- (5) Sincerity or good faith.

**GECO:** We used similar ideas to

develop our paper "Shaping Policies Using **S<sup>5</sup>**: Science, Systems, Synergy, Sustainability, Society."

**Sun Tzu:** By *Method and Discipline* are to be understood the marshaling of the army in its proper subdivisions, the graduations of rank among the officers, the maintenance of roads by which supplies may reach the army, and the control of military expenditure. These should be known by every general.

**GECO:** The military are often called into service to supplement civil response to disaster relief efforts. This is due to their operational capabilities and resources. Civil authorities (e.g., police, fire, ambulance services, etc.) are para militaristic. Non-government organizations may have trained professional leaders but are rely on volunteer staffing. The level of volunteer training may not be to the same degree or intensity of military and government personnel. GECO is an all-volunteer



From waging war to emergency preparedness

## Public Policy S<sup>5</sup>\* Litmus Test

All public policies should be scored using the following test. Policies with lower ranks should be re-examined and improved. Implemented policies should be, periodically reviewed, modified and updated as needed due to changing conditions and circumstances.

Public Policy Litmus Test Questions	Yes	No
1. Is the policy based on valid science?		
2. Does the policy deal with the entire system relative to the issue?		
3. Does the policy promote or result in synergy?		
4. Does the policy result in a sustainable system?		
5. Is the policy good for society as a whole?		

**Scoring:** Yes = 5, implement; Yes ≠ 5, review, revise, update to get scoring to equal 5.

Public policies not passing the test are unacceptable for implementation.



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group with no outside funding. We use a no cost/low-cost, no tech/low-tech approach to minimize expenses. This makes it easier to replicate programs in impoverished areas. We do not expect nor do military style training. Everyone responds differently to stress. In fact, stress is different things to different people. Our approach is to use quick reference cards as training and operating aids to keep things simple and consistent for EmComm operations “under fire.”

Sun Tzu	GECO
When seeking to determine the military conditions, let them be made the basis of a comparison, in this way:	Local natural geo-hazards awareness and existing local community emergency response plans are used to suggest <a href="#">community-based education</a> programs to improve community preparedness, resilience, and sustainability.
1) Which of the two sovereigns is imbued with the Moral law?	1) GECO operates on mutual respect, mutual benefit, ethical conduct, and self-selection consistent with its <a href="#">S<sup>5</sup></a> guidelines.
2) Which of the two generals has the most ability?	2) GECO seeks volunteer local leaders who are respected and trusted by the community. They must be willing to freely share with others what they know and learn. They take responsibility when things don't go well and give credit to others when things do go well.
3) With whom lie the advantages derived from Heaven and Earth? [Note: Heaven is symbolic for weather, heat / cold, and the season. Earth represents distances, terrain, obstacles/hazards.]	3) Every place has advantages and disadvantages. GECO uses the Geographic Systems Model to assess local geo-hazards (at different scales or levels of detail and times of the day and seasons). Local emergency plans are studied to make suggestions for improvement.
4) On which side is discipline most rigorously enforced?	4) GECO is an all-volunteer organization. Everyone is expected to conduct themselves consistent with GECO policies of mutual respect / mutual benefit and ethical behavior. This creates a self-regulating culture. We focus is on the team effort, not individual “star players.”
5) Which army is stronger? [Morally as well as physically and greater “Esprit De Corps.”]	5) Policies of mutual respect, inclusion, and diversity strives to give everyone an opportunity to participate. Volunteers are valued for their willingness to participate. For many, it is a newfound respect and acknowledgement as an individual.
6) On which side are officers and men more highly trained?	6) Our training cannot match the intensity of military and professional emergency responders. We make classroom lessons relevant to the daily life, local jobs and community needs for emergency preparedness, resilience, and sustainability. Our programs are designed with flexibility and can be taught in elementary to college level students using “teach backs” rather than written exams.

Sun Tzu	GECO
<p>7) In which army is there the greater constancy both reward and punishment?</p> 	<p>7) GECO does not operate on a system of rewards / punishment. Mistakes or poor outcomes not meeting expectations are opportunities for leaning and improving. GECO activity evaluations consist of answering the following questions, we learned from <a href="#">Bill Crawford</a> (a former military pilot):</p> <ul style="list-style-type: none"> <li>• What happened?</li> <li>• What went right?</li> <li>• What went wrong?</li> <li>• Why?</li> <li>• Lessons learned?</li> </ul> <p>The goal is to foster and nurture learning and improvement, not to play the blame game.</p>

**Some GECO Sun Tzu Basics for EmComm:**

**Deployments:** GECO is a grassroots volunteer organization. We primarily serve our local community. We leave the question of long-range (outside our local area) to individual choice. Sun Tzu advises against conducting operations outside your territory. Supply is the critical factor followed by having to operate in unfamiliar territory (e.g., geographically, terrain and culture). Disaster survivors tend to have limited supplies of water, medical care, food, shelter. You need to have all of those to support your EmComm operations. You cannot show up just to do EmComm duty. You and your team will be living there and must NOT consume the limited resources in the disaster zone.

**Networking:** Consistent with the local / regional nature of geo-hazards, GECO advocates setting up both local and regional EmComm networks. Local networks must be based on simplex as the default system. If repeaters are working after a disaster, use of them, but always know the simplex connectivity of participating stations in case the repeater goes out. The same applies to VOIP nets (e.g., EchoLink, etc.). You cannot assume repeaters and the Internet will NOT be available in a disaster zone, nor can you assume they will be there. You will need to check their viability during and after the disaster. Conditions change. Even simplex operations are not guaranteed.

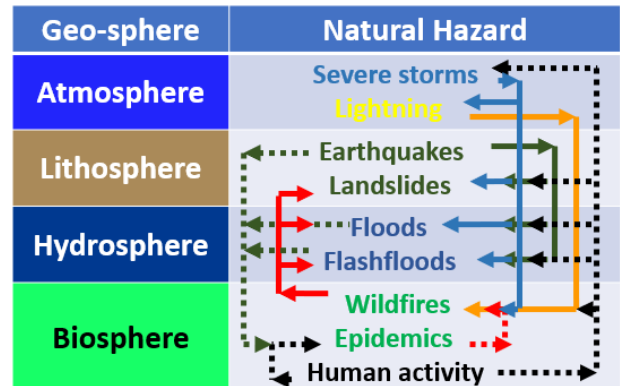
Regional networks follow the pattern given above: preferred primary mode is simplex (in this case more likely HF), then repeaters and VOIP nets. Focus on those stations close to bordering places (e.g., counties, districts, states/provinces, countries). The idea is to reach stations outside the disaster area. This is like the idea of a family emergency plan having a contact phone number out-of-state. It may be easier to make a long-distance call than a local one. Again, you can't assume repeaters or Internet will or will not be available or unavailable after a disaster. You need to systematically check and periodically re-check as conditions change over time.

[**Note:** There are reasonable and finite limits to the amount of redundancy and individual can create. For most, the final deciding factor is your budget. A group or team helps share the load.]

**Know Your Local Conditions:** Local and regional geo-hazards are the "enemy." This is what you must prepare to handle. They are different for each place on Earth. The Geographic Systems Model uses four environmental spheres to describe the Earth: Atmosphere, Lithosphere, Hydrosphere, and Biosphere. Natural geo-hazards are associated with one or more of these spheres. Local geo-hazards are first identified with a sphere. Further study can reveal secondary connections to other

environmental spheres.

The diagram on the right shows possible direct and indirect connections between various geo-hazards related to the basic environmental spheres and each other. GECO uses this insight to assess the impacts to our station and specifically, to our equipment (e.g., antennas, transceivers, power supplies, alternate operating sites, volunteers, support equipment and supplies, re-supply options, etc.) and overall operating plans.



**“The Unexpected”** is the leading cause for EmComm operational failures. Sun Tzu said to make plans but to allow for a commander in the field to see and seize opportunities which may or may not be part of the original plan. GECO uses flexibility combined with safety, simplicity, interoperability, networking, and redundancy as keys to dealing with the unexpected. Actions deviating from an EmComm plan must be consistently guided by the common goal of the plan. [Note: Know you cannot do it all. There are limits to what can be done. When you network, share knowledge of your capabilities and limitations with others. The combined resources of the network can result in synergistic capability to enable each member to benefit and perform beyond their individual capacity. Work together, not apart.]

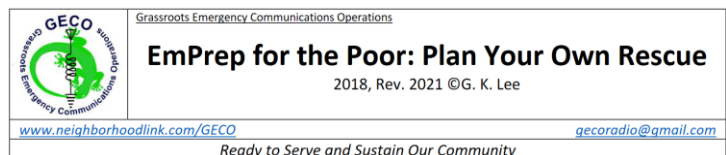


## Broken Links Repaired

The increasing use of hyperlinks in GECO publications is helpful for brevity, connectivity, and reinforcing lessons, notes, and information. But everything has pluses and minuses. Broken links are the problem. They can happen due to website technical issues or changes, updates, and revisions to the original item.

If you’ve visited the GECO website (and the collaborative Applied Geography for Sustainable Living site), you can image the huge task it is to check previous publications for broken links. If readers find broken links and report them, we can correct the situation. However, when we do this, posting the revision creates a new unique document ID. This means any other publication linked to the previous version will now have a “broken link.”

Recently a reader of a 2018 paper on EmPrep for the poor emailed GECO reporting some broken links. After three years, it turns out several of the hyperlinks in the paper needed repaired. This was the tip of the iceberg. As the use of hyperlinks and broken links grew, we had to re-think the use of hyperlinks. A more viable option may be to refer people to the relevant website for the most current version. We are still considering our policy on this matter.





## Call to Arms: Promote & Defend HAM Radio

N7YLA sent an email that led us to a website by [Steve N8GNJ](#), which contained these four important challenges facing HAM radio today. From N8GNJ: “As a techie who’s been interested in all things radio since childhood, I see Amateur Radio in 2021 and beyond having enormous potential. To re-realize that potential, there are four “tricks” that have to be pulled off, nearly simultaneously, in order for that potential to be realized.”

We’ve listed his concerns and the GECO responses to address his concerns. We may not be able to fully address his concerns, but we hope this will stimulate and encourage HAMs to consider their personal course of action to defend and promote HAM radio in their area.

Steve N8GNJ Concern	GECO Action
1. <b>Amateur Radio has to survive.</b> Yes, that really is a question, because in the minds of regulators, Amateur Radio isn’t much more socially relevant than blacksmithing is to modern manufacturing. Amateur Radio uses valuable portions of spectrum, and in many countries, Amateur Radio has only tiny slivers of spectrum (if any at all), and that could also happen in the US.	<ul style="list-style-type: none"> <li>• GECO relies on and supports ARRL efforts for spectrum defense by following announcements, signing petitions, and writing letters.</li> <li>• Promote and encourage ARRL membership.</li> <li>• Encourage full use of license privileges to get on the air and occupy and use the allocated bands in the <a href="#">band plan</a>.</li> </ul>
2. Assuming survival, <b>Amateur Radio regulations have to be modernized</b> to permit much more experimentation, including creating new modes without explicit description in the US Amateur Radio regulations.	<ul style="list-style-type: none"> <li>• GECO relies on ARRL for legal and legislative actions, petitions, letter writing campaigns.</li> <li>• Promote and encourage ARRL membership.</li> <li>• Advocate for HAM radio be taught in schools in alignment with STEM/STEAM* curriculum but NOT to replace existing lessons, rather to be examples of using or applying existing lessons to real life.</li> </ul>
3. The <b>public perception of Amateur Radio</b> being a hobby of “old white guys sitting in their basements tapping on a Morse code key” <b>has to be radically improved,</b>	<ul style="list-style-type: none"> <li>• Actively report HAM activities with an eye for inclusion and diversity.</li> <li>• Implement and share the GECO Next Gen Humanitarians with all interested HAMs.</li> </ul>
4. Techies, hackers, makers, STEM* students have to be made aware that <b>Amateur Radio</b> can be used as an enabling technology <b>for their education,</b> activities, and experiments.	<ul style="list-style-type: none"> <li>• Introduce EmComm, <a href="#">ARRL and HAM radio training</a> as applied math, science, and technology to students, teachers, schools, and communities as away to improve education and community preparedness and disaster resilience.</li> <li>• Promote the use of GLS Community-based Education which integrates HAM radio, EmComm, and EmPrep in its curriculum development processes of STEAMING* and PAL.</li> </ul>

\*STEM/STEAM/STEAMING: STEM = Science, Technology, Engineering, Mathematics. STEAM = STEM with the addition of Arts (graphic, performing, language, and other soft skills. STEAMING is an Applied Geography for Sustainable Living enhancement of STEAM by Integrating Nature and Geography.

We urge all HAMs to read the four concerns of [Steve N8GNJ](#). If you have more, add them to the list and email us. For each or any of the concerns, make a commitment to take action to help save HAM radio! Don’t rely on others to do the work. There is a Japanese parable about a tree in winter. Snow is falling one tiny flake at a time. The snow piles up on the branches. Each tiny snowflake is thinking it is too small to make a difference. One day, one more tiny snowflake landed on a heavily laden branch and the branch suddenly broke. You might be the one to make it happen. 🌱

## Recent EmPrep Education Efforts

In nearly every disaster situation, getting safe drinking water is an immediate need for survivors. The GECO reference cards present no cost/low-cost, no tech/low-tech methods easy to implement in post-disaster situations.

The recent earthquake in Haiti and other ongoing disaster events in Central America, South America, Africa, and Asia caught our attention. We thought of the people's need for safe drinking water and dusted off some earlier lessons going back to 2009-2011 and 2018. With some quick compiling and editing, we quickly put a 2021 collection of reference cards together for Getting Water and Preparing Safer Water. We contacted various radio groups in Haiti, China, Columbia, India, Guatemala, Indonesia, Russia, Turkey, to freely share these with HAMs serving stricken communities in those countries.

We got this response from the Haiti Digital Communications League (HDCL) Team, HH2MJF: "Dear Greg KI6GIG, Thank you so very much for thinking about us in this difficult moment. We really do appreciate the information about the water for disaster survivors. It is very helpful. 73, DE Haiti Digital Communications League (HDCL) Team, HH2MJF."

As the details of the disaster unfolded, more useful lessons came to mind. We sent those via email. This amounted a series or a tsunami of information applicable to the unfolding details of issues they were facing in Haiti for the short- and long-term. After a few days, they emailed: "Hello Greg, Thank you for all. Information is power, this kind of info can save lives."

We extended an offer to collaborate with them in the future to share more educational materials with them. They requested more French language materials. If anyone can help with this, please contact us ASAP (gecoradio@gmail.com). We also expressed interest in helping the HAMs implement emergency

preparedness training programs in schools and communities.

Basic EmPrep: Getting Water	Basic EmPrep: Preparing Safer Water	EmComm Lightning Hazard Awareness & Safety
<p><b>WG1: Introduction</b></p> <p>This set of 10 reference cards are made based on information from Emergency Preparation Lesson EP-3 Water</p> <p>To see the full lesson, go to <a href="#">Applied Geography 2</a>. Then scroll down the left column to section 3.3 RTC-TH Emergency Preparedness (EmPrep) for lesson EP-3.</p> <p><a href="http://www.neighborhoodlink.com/GECO/gecoradio@hamlink.com">http://www.neighborhoodlink.com/GECO/gecoradio@hamlink.com</a> # K16GIG@hamlink</p>	<p><b>W2: Introduction</b></p> <p>This set of 9 reference cards are made based on information from Emergency Preparation Lesson EP-3 Water</p> <p>To see the full lesson, go to <a href="#">Applied Geography 2</a>. Then scroll down the left column to section 3.3 RTC-TH Emergency Preparedness (EmPrep) for lesson EP-3.</p> <p><a href="http://www.neighborhoodlink.com/GECO/gecoradio@hamlink.com">http://www.neighborhoodlink.com/GECO/gecoradio@hamlink.com</a> # K16GIG@hamlink</p>	<p>Lightning is associated with some emergencies caused by storms. HAMs need to be aware lightning can also strike far from beyond the storm. Lightning is a hazard indoors, too.</p> <p>To see the full lesson, go to <a href="#">Applied Geography 2</a>. Then scroll down the left column to section 3.3 RTC-TH Emergency Preparedness (EmPrep) for lesson EP-9.</p> <p><a href="http://www.neighborhoodlink.com/GECO/gecoradio@hamlink.com">http://www.neighborhoodlink.com/GECO/gecoradio@hamlink.com</a> # K16GIG@hamlink</p>

All these actions are consistent with our [geo-hazards awareness](#) effort to support the UN Sendai Framework on Disaster Risk Reduction. Haiti is not alone when it comes to multiple geo-hazards and large rural agrarian populations in poverty. Disaster preparedness is hard when people are struggling with daily food insecurity. Every country is unique combination of factors. But the need of awareness in disaster risk reduction is a great common denominator. For example, the Philippines is similar to Haiti with multiple geo-hazards. *"The series of natural disasters that hit the country while we are battling the pandemic highlights the importance of mainstreaming disaster risk reduction and climate change adaptation into policy and planning,"* said [Ndiamé Diop](#), World Bank Country Director for Brunei, Malaysia, Thailand and the Philippines. *"While the Philippines is financially resilient, stronger coordination, execution and implementation will help further improve social and physical resilience to frequent shocks."*

GECO is willing to discuss sharing its education materials and methods with anyone interested and willing to better prepare their communities. 🌱



Ndiamé Diop