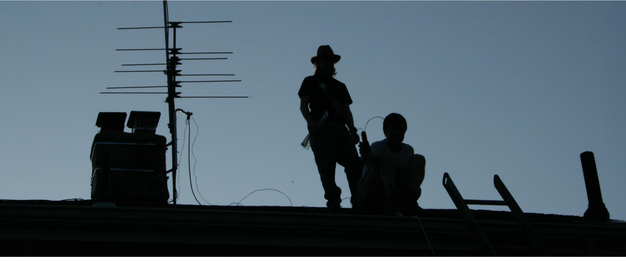

Involving the Lay Person as a Citizen Scientist

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Abstract

How do we involve the lay person in citizen science? The amateur radio community already has a head start due to the nature of their license and the activities that are part of amateur radio. This community encompasses a diverse group of licensed operators whose education, backgrounds and careers are wide ranging. We will use a brief overview of my personal journey leading to my involvement in HamSCI, to give insights to this question. I will then take a brief look at what I have learned from ham radio operators through my presentations and interactions While not a scientific study, interacting with ham radio club members in a social, open atmosphere can give insights that will aid in involving them in citizen science. This is done through the perspective of a nonscientist, who is not formally of the scientific community, but is an avid member of HamSCI and involved with their activities.

So, what is a citizen scientist?

According to NASA “Citizen Science is defined as a form of open collaboration in which individuals or organizations participate voluntarily in the scientific process in various ways.”
NASA has 33 science projects that all involve citizen scientists or volunteers with participation available at many levels of complexity, beginning with just a cell phone or laptop. They define a citizen science project as a “collaboration between scientists and interested member s of the public” . HamSCI is one of those projects.

My Start

My personal journey started with an intense interest in science at an early age, where I was exposed to public speaking, research, and wonderful examples from the beginning. For example:

- I read as many science fiction and science non-fiction books as I could get my hands on, Tom Swift to Asimov.
- In High School chosen to do presentations to schools on science.
- I began reading Scientific American in High School.
- Helped my High school Biology teacher with his master thesis and research on sea slugs.

Ham Radio and Presentations

As I enjoyed doing public speaking, I was asked to do presentations with ham radio, and they were well received. I had many individuals who went to propagation presentations and said that they did not really understand a lot of it, so I decided to do an entry level presentation. In my research I found two individuals and their websites that were perfect for me. Dr Tamatha Skov and Carl Luetzelschwab, K9LA, became my foundation.

My first attempt to do a presentation on this was at the Rocky Mountain Convention. Who else would show up in attendance but Carl K9LA, which made me nervous. Within a few minutes I knew that this was a disaster. I was embarrassed and told myself as I wrapped up that I would never do this subject again. Carl came up after and I braced myself. He was very gracious, said that I had a good idea, that it needed some work, but I should keep working at it. This inspired me to continue with this presentation and my interest in space weather to this day.

Dr Skov graciously took the time to respond to all of my questions as I watched her mini courses.

HamSCI

I then read about something called HamSCI, I checked it out, and decided that there was little that I could contribute, that it was way over my head. Then about a year later I read about HamSCI again and this time decided to join. At my first meeting Dr Nathaniel Frissell and everyone was quite welcoming. The learning curve was steep; however, the learning atmosphere was outstanding. The Thursday afternoon group made me feel that, even with my limited background and knowledge, I added value. Soon I was involved with document preparation , presentations, being on their speaker's bureau, and now here I am.

What do other operators think

As I have given presentations around the country and even one international, I have had the chance to talk with ham radio operators about their thoughts on citizen science..
1- The majority are not interested in becoming involved to the level that I have enjoyed. They want to help but to do it with events like eclipse contests or being on the air
2- When it comes to the ionosphere, they just want to know the basics.
3- Propagation, they just want to know how to maximize their operating time and when it will be best.
4- Many of them feel that they do not really understand all of the terms, but they don’t want to say anything and will just nod their heads with everyone else.
5- When at the conclusion I talk about the eclipses coming up they want to be involved and appear motivated to get on the air with their radios. Frequently I hear them say that this is perfect for them to be able to help.
6- They hope that the results are available in a way that they understand and makes their contribution easily apparent.

Conclusion

While your path may be different , this is what helped me to become a citizen scientist.

- An early lifelong interest in science
- Mentors took an interest in my efforts and gave me encouragement.
- The scientific community made me feel welcome.
- The scientific community involved me.
- Making sure that I was an active learner, and I was teachable.
- Finding my niche and using my talents to add value, play to your strengths, and not worrying about what I did not know

For me being a citizen scientist is exciting and fulfilling. In preparing this poster I have taken another step forward and more growth. I have not finished my journey in citizen science and look forward to more opportunities. Who knows maybe one day I will co-author a scientific paper. My thanks to everyone who contributed to helping me in so many ways.

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