

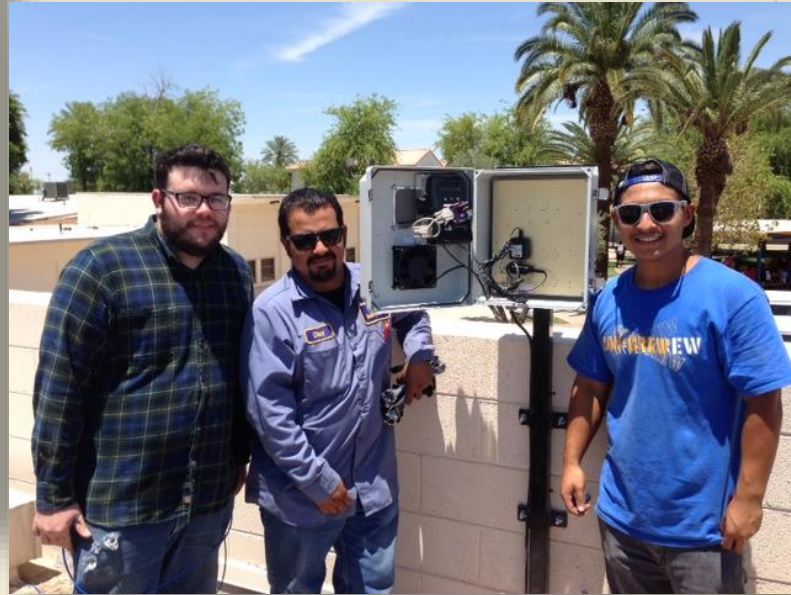
Citizen Science

"A Better Environment Through Citizen Activism"

FJMC Shomrei Ha'Aretz
2017-19 Challenge Presented at Convention
July 21, 2017

David Friedman
David Friedman Consulting LLC.

Newark, NJ; Ironbound Citizen Science Project Community Council, Air Pollution Monitoring



Why this topic is so important

Efforts are underway to roll back the environmental protections that have been developed over the course of the past 50 years.

As leaders of our faith's religious community, this should concern you as it goes against the tenets of our religion.

As Jews, it is our duty to protect G-d's creation.

In addition, these actions pose significant dangers to the health of your children and grandchildren.

Examples of Recent Problems

Releases of toxic organics and greenhouse chemicals from Natural Gas Wells

Drinking water contamination in Flint Michigan and in other cities and towns.

So What Is Citizen Science?

In **citizen science**, the public participates voluntarily in the scientific process, addressing real-world problems in ways that may include formulating research questions, conducting scientific experiments, collecting and analyzing data, interpreting results, making new discoveries, developing technologies and applications, and solving complex problems.

John P. Holdren, “Addressing Societal and Scientific Challenges through Citizen Science and Crowdsourcing,” 2015

What Has Made Citizen Science Possible

New developments in technology and the ability of citizens to organize using social media has led to the public becoming actively engaged in uncovering human health and environmental problems in their own neighborhoods.

The ability to organize over social media has led to Community citizen science which are locally led, collaborative activities to explore and address community-defined issues.

Today's Subjects

- Why it is critical that you and the members of your Men's Clubs care and get involved with protecting the environment that we all live in.
- How, through Citizen Science Men's Clubs can make a difference and improve the health of your communities and that of future generations.

Tonawanda Coke, Inc.

Citizens in Western New York, started an effort to address concerns about pollution emanating from a local industrial plant - *Tonawanda Coke*. Residents set up a program and collected air samples in the community.

As a result of their efforts, EPA got involved which resulted in a criminal trial; a conviction; a \$25 million dollar fine for the company; and a jail sentence for the environmental manager.

Elkhorn River Basin

A University of Nebraska study called on local residents to help gather water samples from the Elkhorn River Basin. The University provided simple testing kits, and the samples will be used to understand how pesticides may be entering the river system.

This project is an example of a one day Citizen Science activity to support a longer-term study by a University.

Why Care?

- Active involvement of citizens is crucial to maintaining support for EPA and the environment in these times of budget cuts.
- If you care about protecting the health of your children and grandchildren, it is critical that citizens make their voices heard.

Why Care?

- When government efforts are reduced, it is only with an active citizenry that problems can be identified and government and industry forced to address them.
- Just look at Flint, Michigan for a recent example.

Why Care?

- As citizens, parents, and grandparents; you have a big stake in the health of the communities you all live and work in.
- As community leaders, you can play a leading role in fostering a citizen driven program to better identify current and emerging health and environmental problems in your communities.

Why Care?

- Your role in the community, strengthens your position with both regulators and legislators when you push them to address problems.

What Can the Men's Clubs Do?

1. Identify local sources of expertise for advice and assistance.
2. Help groups attract volunteers to help.
3. Volunteer to participate in studies.
4. Help get the word out if results indicate there are problems.
5. Identify people and businesses who might have equipment available to help conduct studies.

What to do next.

- Have the FJMCs set up a program so that each individual Men's Club does not have to do everything themselves.
- - Make it easy to find sources of help and organizations that are conducting efforts where your members can participate - ala the University of Nebraska project.

Resources:

- ▶ “Environmental Protection Belongs to the Public” A Vision for Citizen Science at EPA
National Advisory Council for Environmental Policy and Technology (NACEPT) December 2016 EPA 219-R-16-001
- ▶ McElfish J., J. Pendergrass, and T. Fox. 2016. Clearing the Path: Citizen Science and Public Decision Making in the United States, Washington, DC: Woodrow Center for Scholars. www.wilsoncenter.org/sites/default/files/clearing_the_path_eli_report.pdf.
- ▶ Tufts University Institute of the Environment. 19 USEPA. 2016. List of Designated Reference and Equivalent 2016. “Citizen Science 2016 Conference.” Accessed September 30.
www.environment.tufts.edu/blog/2016/06/10/citizen-science-2016-conference.

Resources 2:

- ▶ Citizen Science Association. 2016. “Association: Vision, Mission, Goals.” Accessed September 15.” www.citizenscience.org/association/about/vision-mission-goals.

For Further Information

Michael Miller, PhD.
M. W. Miller Environmental
drmike@millerchemist.com
www.Fjmc.org/content

David Friedman
David Friedman Consulting, LLC.
friedmanconsulting@cox.net
703-389-3821