



Introduction

Citizens lack the basic tools to independently assess information that is handed down to them by perceived experts, especially with regard to environmental issues. Climate change skepticism is just one manifestation of the increasing gap in trust between the science establishment and its audience – a gap which counts among its causes the inability of scientists and technologists to engage in a participatory way with everyday people. Public Lab bridges this gap, using collaboration to solve communities' real world problems and build civic engagement with data. The affordable DIY tools which our open community develops have enabled thousands of people to independently collect and interpret data, thereby bolstering their evaluative capacity and improving local access to critical information on environmental issues. Through the process of first-hand data creation and analysis, Public Lab community researchers build expertise in critical thinking and technologies with broader application to their role as civic participants. Public Lab is a recipient of an Honorable Mention in the 2013 Buckminster Fuller Institute Challenge, a runner-up for the Ars Prix Electronica Digital Communities prize and a two time Knight Foundation, Knight New Challenge winner.

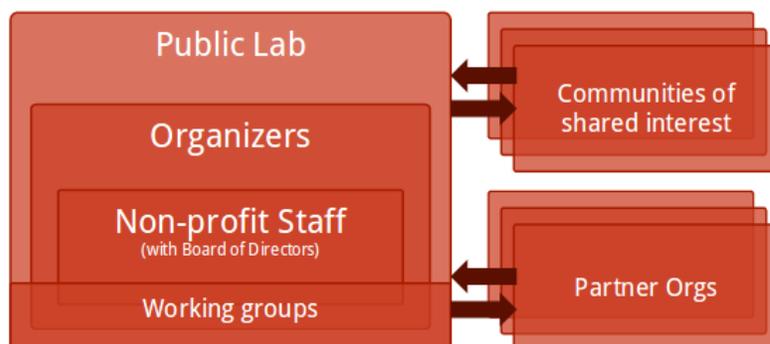
Mission Statement

The Public Laboratory for Open Technology and Science (Public Lab) is a community, supported by a 501(c)3 non-profit, which develops and applies open-source tools for environmental exploration and investigation. By democratizing inexpensive and accessible Do-It-Yourself techniques, Public Lab creates a collaborative network of practitioners who actively re-imagine the human relationship with the environment.

The core Public Lab program is focused on the research, development, and refinement of open source hardware and software tools and methods to generate knowledge and share data about community environmental health. Our goal is to increase the ability of underserved communities to identify, redress, remediate, and create awareness and accountability around environmental concerns. Public Lab achieves this by providing online and offline training, education and support, and by focusing on locally-relevant outcomes that emphasize human capacity and understanding.

Infrastructure

Our web presence, offline research communities, and nonprofit staff members form the backbone of a unique group of open source community researchers who share their expertise in science, technology, community organizing, activism, and social science publicly on the





web and in person. The resulting infrastructure has empowered regional communities of researchers to solve problems and share information with each other through offline meet-ups and workshops. Our collaborative efforts yield open source how-to guides for making and customizing tools for inquiry and methods for conducting rigorous investigations which are in turn documented on our site and in hard copy at research centers. The data produced is designed to function as civic information that is visually accessible and distributable in standard formats. Public Lab's wider community of researchers are supported by the Public Lab Organizers, highly-involved volunteers who help to organize events, coordinate data collection, storage, publication, and outreach where they live.

Program Areas

Open Air/Water/Land: Public Lab is home to a diverse and growing community of concerned citizens dedicated to building and using inclusive, open data sets about the places they live. In the spirit of this, Public Lab organizes its work under three topics, Open Air, Open Water, and Open Land, in order to allow for community collaboration across hardware, software, expertise, and locale. Through these topic areas, our community is increasing public access to open source data collection tools and methodology, sharing best practices for advocacy, and collaborating across geographies to develop comprehensive toolkits for improving civic participation in decision making about the places we live, work and explore. By organizing under these three topics, we facilitate collaboration while leaving enough flexibility to encourage innovative strategies and partnership building. To support the democratization of and increase access to our kits, we are also developing a tool lending library. It will be built off the model we established in the wake of the BP Oil spill, which allowed volunteers to map over 100 miles of coastline using only three DIY aerial mapping toolkits. Public Lab community members will be able to request loaner kits online and will have access to technical support through our peer-to-peer mailing lists and online research community.

Public Lab Fellowships: Through the Fellowship program, Public Lab will provide resources for under-resourced community members to conduct comprehensive investigations of local environmental issues, including providing financial support through a stipend, mentorship with knowledgeable staff and/or volunteers and connections to additional resources. Public Lab will take a similar approach through the Fellowship program to disburse micro-grants, supporting community members working on the development or maturation of a specific tool.

Environmental Technology Clinic (coming in 2015): Community organizations and nonprofits do vital work, often on shoestring budgets. However, they often lack internal expertise in technical fields like coding and web development that could make their work more efficient and impactful. Public Lab's Environmental Tech Clinic will link designers, developers, and technologists with organizations with technological needs. Public Lab hopes to launch inaugural clinics as well as a global online clinic in 2015 pending financial support.



Long-term Goals

By developing and deploying data collection tools, we help citizens become more than mere observers in their environments. This allows communities to critically and actively investigate, identify and address environmental concerns. In a society which is increasingly recycling and reblogging information, Public Lab seeks to engage communities in the process of collecting and sharing new information. The Public Lab website gives local communities, educators, activists, and researchers a place to collaboratively discuss techniques, share data, and learn from experiences in other communities. Putting the techniques and tools of information collection and sharing into the hands of communities creates local experts that are able to represent themselves, engage with scientific experts, and participate in the decisions which set environmental justice agendas in their communities.

It is our hope that the increasing gap between the scientific establishment and the broader public may be overcome, at least in part, by our more participatory and bidirectional approach. We work on the premise that lasting engagement with science and civic action can be generated when communities actually do rigorous data collection in context. Our work to date has shown that when the public is involved in the process of scientific investigation they will understand and defend both its results and its nuances. For us, a successful project is one which makes an expensive and exclusive technology available at low cost and accessible to people regardless of their professional or educational background. It is one which engages the public not only as consumers but as producers of shared, open-source technologies and data, and in which, above all, those technologies are applied to real world problems to create change.

Board of Directors

Catherine Bracy is [Code for America's](#) Director of Community Organizing. Until November 2012, she was a product manager and director of the Obama campaign's technology office in San Francisco. She also did outreach to the tech community for Tech4Obama. Prior to joining the campaign, she ran the Knight Foundation's 2011 News Challenge and before that was the administrative director at Harvard's Berkman Center for Internet & Society.

Eymund Diegel is a South African trained urban planner who first became interested in real time mapping technologies when creating maps for constantly changing informal settlements in Africa. With the digital technology revolution, he is exploring how personal media devices, such as cell phones, can create network maps of how people live in their communities, and how those 'density trails' can provide more accurate mapping. He lives by the Gowanus Canal, a polluted Superfund site in Brooklyn, NY, where he works with community groups to create time lapse 'digitally transparent' maps, for neighbors to better understand what was historically under their feet, and what they can do about it.

Bobbie L. King Jr. is an associate in the US corporate group of Skadden, Arps, Slate, Meagher & Flom LLP's London office. From 2010 to 2011, he was an associate in Skadden's Boston office's



general corporate practice. Prior to joining Skadden, he served as deputy finance director of Massachusetts Governor Deval Patrick's re-election campaign and as an adjunct professor at Emerson College. He has also served as Public Lab's legal counsel since its incorporation in 2011.

Micah L. Sifry is co-founder and editorial director of Personal Democracy Media, which produces the annual Personal Democracy Forum conference on the ways technology is changing politics, and techPresident.com, an award-winning blog on how politicians are using the web and how the web is using them. In addition, he consults on how political organizations, campaigns, non-profits and media entities can adapt to and thrive in a networked world. He is a senior technology adviser to the Sunlight Foundation, which he helped found in 2006, and also serves on the board of Consumer Reports. He is the author or editor of six books, most recently [Wikileaks and the Age of the Transparency](#) (OR Books, 2011), and in the spring of 2012 he began teaching at Harvard's Kennedy School.

From 1997-2006, he worked closely with Public Campaign, a non-profit, non-partisan organization focused on comprehensive campaign finance reform, as its senior analyst. Prior to that, Micah was an editor and writer with The Nation magazine for thirteen years. He is the author of [Spoiling for a Fight: Third-Party Politics in America](#) (Routledge, 2002), co-author with Nancy Watzman of [Is That a Politician in Your Pocket? Washington on \\$2 Million a Day](#) (John Wiley & Sons, 2004), co-editor of [Rebooting America](#) (available online for free download at rebooting.personaldemocracy.com), and co-editor of [The Iraq War Reader](#) (Touchstone, 2003) and [The Gulf War Reader](#) (Times Books, 1991). His personal blog is at micah.sifry.com and you can follow him on Twitter at [@mlsif](https://twitter.com/mlsif).

Dr. Christine Walley is an Associate Professor of Anthropology at MIT. She conducts research on environmental politics in both East Africa and the United States. Her first book [Rough Waters: Nature and Development in an East African Marine Park](#) (Princeton University Press, 2004) explored contestation over Tanzania's first national marine park as well as competing conceptions of nature and development found among international environmental organizations, island residents, and national government officials. Her second book [Exit Zero: An Anthropologist's Account of Family and Class in Southeast Chicago](#) (forthcoming, University of Chicago Press) considers the environmental implications of the rise and fall of the steel industry on Chicago's Southeast Side and engages with questions of environmental justice.

Past Board Members: Mikel Maron, 2011-2012

Public Lab Staff

Liz Barry, *Director of Community Development*: Director of Community Development at Public Lab and co-founder of TreeKIT, Liz develops geographic tools and civic science methods for collaborative cities. Her background is in urban landscape design, and she teaches at Columbia University and Parsons the New School for Design. Previously, she worked at Skidmore, Owings and Merrill planning international new cities and campuses, at Durham Inner-city Gardeners (DIG) coordinating youth urban horticulture enterprise, and has travelled around



the country catalyzing interaction among strangers with a “Talk To Me” sign – a project that received international press including the New York Times, AP, CNN, Oprah and NPR’s This American Life. She likes to play outside.

Becki Chall, *Development Manager*: Development Manager Becki Chall comes to Public Lab after three years leading development efforts for Global Green USA’s Gulf Coast programs. In a past life, she worked as an environmental consultant in Washington, DC for a variety of government clients. Becki holds an MA in International Development and Natural Resource Management from The George Washington University and a BA in Environmental Studies from the University of Michigan. While earning her degrees, she completed fieldwork in Australia, Mexico, Cuba, and South Africa. She is a native of Michigan and spends her free time planning her next travel adventure, eating her way around Portland, tending her garden, and hanging out with her adorable mutt, Bean.

Molly Danielsson, *Layout Editor*: Molly Danielsson is a professional designer, researcher, and illustrator seeking to help others understand the science of the world around them in order to make better decisions. Molly creates visual explanations, packaging design, portraits, and anything else involving text and research for companies ranging from People's Food Coop to Medical Reserve Corps to USA Today. Molly is currently working on legalizing sustainable sanitation with Recode. Molly lives in Portland, Oregon where she co-founded Flux, a feminist hacker/maker space.

Shannon Dosemagen, *Executive Director*: A founder of Public Lab, Shannon is based in New Orleans as Executive Director of the organization, managing the work of the Public Lab nonprofit. With a background in community organizing and education, Shannon held positions with the Anthropology and Geography Department at Louisiana State University as a Community Researcher and Ethnographer on a study about the social impacts of the BP oil spill in coastal Louisiana and worked at the Louisiana Bucket Brigade, conducting the first on-the-ground health and economic impact surveying in Louisiana post-spill. Shannon is specifically interested in infusing traditional organizing methods of the environmental sector with new media technologies and tools.

She has an MS in Anthropology and Nonprofit Management and has worked with nonprofits for over fourteen years. She is a 2013 Environmental Leadership Program Fellow and current Senior Fellow, a 2012 Loyola University Institute for Environmental Communications Fellow, on the advisory board of Global Community Monitor, on the Advisory Board of the Louisiana Public Health Institute Healthy Communities Coalition, a current member of the Public Participation in Scientific Research web and communications steering committee (working on developing the Citizen Science Association), on the Leaders Council for the National Parks Conservation Association, a reviewer for the National Science Foundation DRL, and a member of the Louisiana Bar Association technology committee.

Noah Hochman, *Civic Kits Fulfillment Coordinator*: Noah serves as Public Lab’s Retail Fulfillment Coordinator, assisting with Civic Information Starter Kit production, shipping, and customer service. Based in Portland, OR, he has participated as a Facilitator and Organizer of Climate



Justice Portland since 2011 where he is responsible for coordinating educational and solidarity actions focused on addressing the root causes of climate change and the intersection of the environment and social justice. He has a BS in Environmental Policy Analysis and Planning from University of California-Davis.

Stevie Lewis, *Outreach Manager*: Stevie Lewis comes to Public Lab with a background in environmental studies and community development. She has held positions as Volunteer Coordinator for the Grand Bay National Estuarine Research Reserve in Mississippi, Resource Advisor for the National Park Service in response to the Deepwater Horizon Oil Spill, and as Watershed Coordinator for the Alliance for Aquatic Resource Monitoring, a non-profit focused on promoting citizen science in aquatics. Stevie's interest in building community resilience through environmental initiatives includes community and environmental work in far reaching corners of Kenya, Thailand, Botswana and Scotland.

Stevie holds a BA in Environmental Studies from Dickinson College. As a 2012 Rotary Ambassadorial Scholar, Stevie completed a MSc in Environment and Development from the University of Edinburgh. Her academic work and dissertation earned distinction through the university and she completed her studies first in class. In her spare time, Stevie enjoys outdoor activities including canoeing, fishing and above all, hiking. Stevie is excited to join the team at Public Lab and is eager to get involved.

Stewart Long, *Director of Geography and Data*: A founding member of The Public Laboratory for Open Technology and Science, Stewart is a geographer focused on making aerial image maps. Inspired by the digital age of map making and virtual globes, his work centers around making maps with both new technology and classic field techniques. As Director of Geography and Data for Public Laboratory, Stewart coordinates and executes mapmaking projects while managing the Public Laboratory Archive.

Mathew Lippincott, *Director of Production*: A founding member of Public Lab, Mathew is an artist and designer whose work has been exhibited internationally. As Public Lab's Director of Production, Mathew coordinates the design, manufacturing, and distribution of Public Lab kits, and has expertise in open hardware design, and technology and arts education, with a focus on involving and training non-technical participants in technology deployment. Mathew has worked on technology education for eight years, both with youth programs and arts education. He became involved in Grassroots Mapping through materials testing and the design of low-cost balloons and kites.

Natalie Mayorga, *Civic Kits Manager*: Natalie Mayorga serves as Public Lab's Civic Kits Manager, overseeing kits operations and sales. For the past several years she has cycled between education, outreach, fund-raising efforts and marketing, sales, and customer service. She comes directly to Public Lab from Portland's own Gay & Lesbian Community Yellow Pages where she served as Marketing Director. Her background in community organizing and working with numerous Portland based advocacy groups, such as Basic Rights Oregon, and Q Center, has led to her developing a passion for working with non-profits that seek to build relationships, create accessibility and empower under served communities. Joining the Public



Lab team creates a unique position and opportunity to pool her skills into one very large creative endeavor and bring various runs of kits to researchers and citizen scientists everywhere.

She is currently rounding out her AAOT and continuing education through Portland State University in the Fall. The focus of her studies is public administration and urban planning with an emphasis in non-profit management. In her free time she enjoys playing softball, reading fantasy, and strumming an old guitar.

Jeffrey Warren, *Research Coordinator*: Founder of Grassroots Mapping and co-founder of Public Lab, Jeff now serves as Public Lab's Director of Research. He is a fellow at MIT's Center for Civic Media, on the board of the Open Source Hardware Association, on the advisory board of Personal Democracy Media's WeGov, and an advocate of open source software, hardware, and data. With 10 years of experience in project management and software architecture in open source code, he has founded and contributed to dozens of widely used software projects, from data visualization to geospatial applications. His expertise in user experience, interface and graphic design have guided his work both in industry, consulting and designing for GE and Intel, as well as in the academic and open source space.

Partner Organizations

- New York University's Center for Urban Science and Progress (New York, NY)
- Gowanus Canal Conservancy (Brooklyn, NY)
- Pioneer Valley Open Science (Amherst, MA)
- Toxics Action Center (New England)
- Cape Cod Bay Watch (Plymouth, MA)
- Tidmarsh Farms (Manomet, MA)
- GreenStart (Lee, NH)
- Farm Hack (national, focus in Northeast)
- Parts and Crafts (Somerville, MA)
- Five Borough Farm (New York, NY)
- Gulf Restoration Network (New Orleans, LA)
- Gulf Monitoring Consortium (Gulf Coast)
- Louisiana Universities Marine Consortium (Cocodrie, LA)
- NASA DEVELOP (Long Beach, MS)