The Public Laboratory
for Open Technology and Science

@PublicLab @sdosemagen @lizbarry

Using inexpensive DIY techniques, we seek to change how people see the world in environmental, social, and political terms. We are activists, educators, technologists, and community organizers interested in new ways to promote action, intervention, and awareness through a participatory research model.

Problems with Environmental Science and Health Research

- Expensive
- Limited to hands of experts
- Lag in knowledge between experts and people on the ground
- People on ground don't own the data
- They also don't understand how it is made
- Industry has far greater capacity to generate data

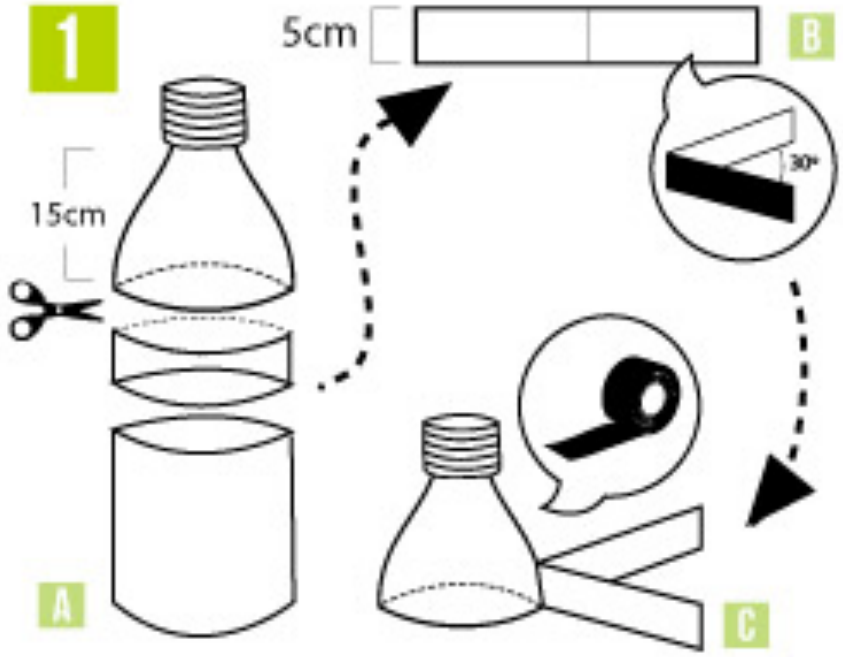
Civic Science Approach to Environmental Health Monitoring

- Community oriented and developed
- Community owned
- Tools can be adapted and spread in an open source fashion
- Supports public exploration and investigation of environments- locals are regarded as experts of their own environments

"The term 'civic science' has been used to describe science "that questions the state of things, rather than a science that simply serves the state" (Kim and Mike Fortun 2005:50)

Materiales:

Globo Grande o Muchos Normales | Helio | Botella 2Lt vacía | Cordel & Carrete | Cinta Adhesiva | Tijeras | SmartPhone 3G & Ustream o Cámara Digital



1 *Domo Protector*

A Con una tijera corta una botella de plástico desechable en 3 partes cómo muestra el dibujo.

B La banda central debes doblarla en 30 grados para convertirla en unos alerones que estabilizarán la cámara.

C La parte superior protegerá tu camara o teléfono, asegúrate de pegarla muy bien.



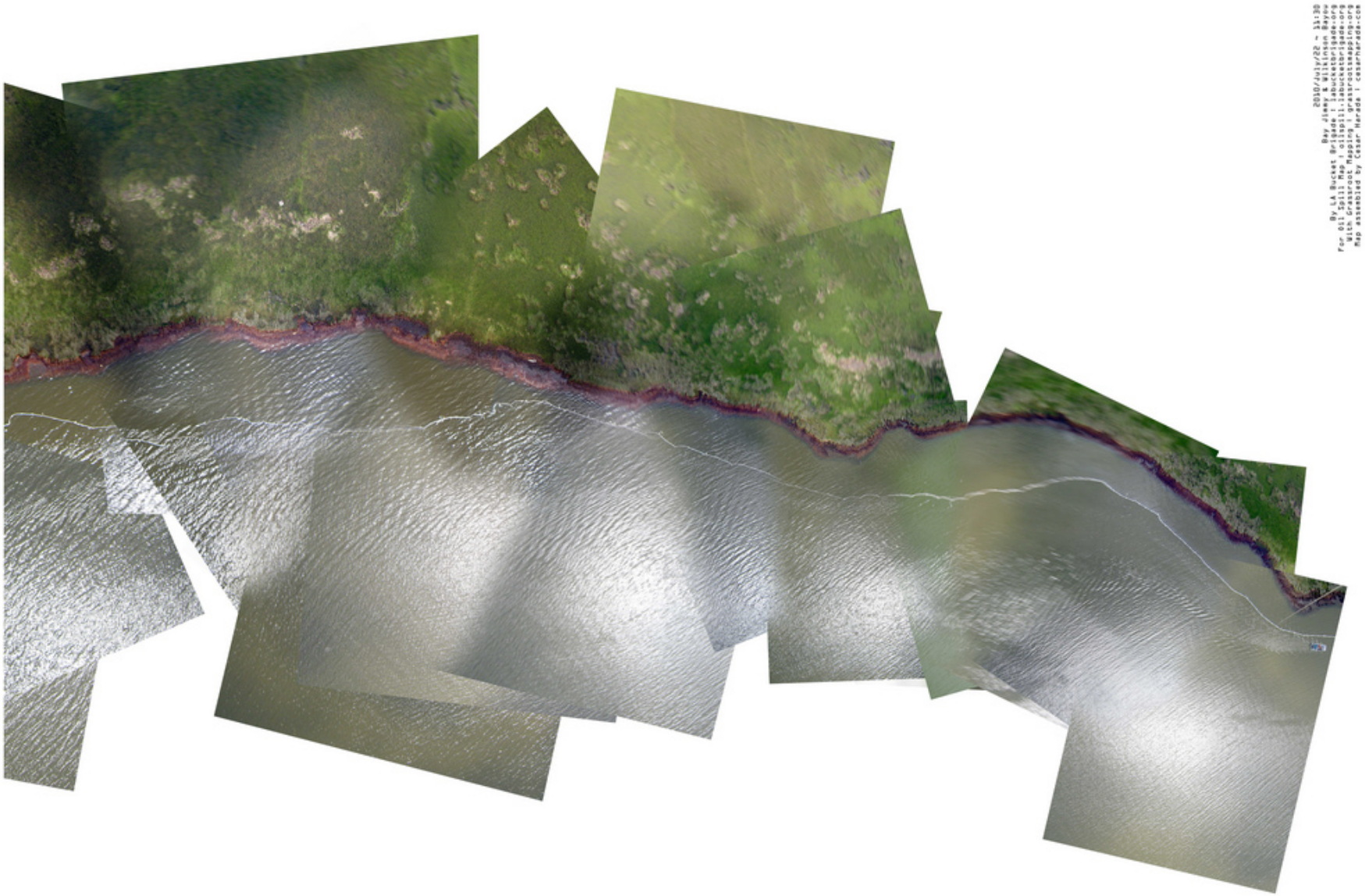








Balloon mapping kit variations



Archive *publiclaboratory.org/archive*

Recent Maps

Low Water Bridge. Shenandoah River. Bentonville, Virginia
July 20, 2012

Corn Maze. Edmonton, Alberta, Canada
July 11, 2012

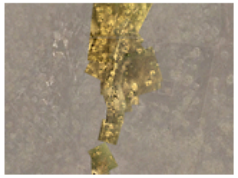
Davidson Middle School. San Rafael, California.
May 15, 2012

University of Kentucky W.T. Young Library. Lexington, Kentucky.
April 21, 2012

Asheville Arts District. Asheville, North Carolina.
October 22, 2011

Carney. Asheville, North Carolina.
March 10, 2011

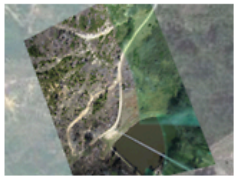
Caliente Ridge, Carrizo National Monument. Santa Margarita, California
January 2, 2009



Carrizo National Monument. Santa Margarita, California
January 2, 2009

Cementerio Cental. Bogota, Colombia.
March 12, 2012

Kamnolom. Dravograd, Slovenia
April 15, 2012



Grovetown, Georgia
March 6, 2012

Ezac Airfield. Axel, Netherlands.
May 12, 2012

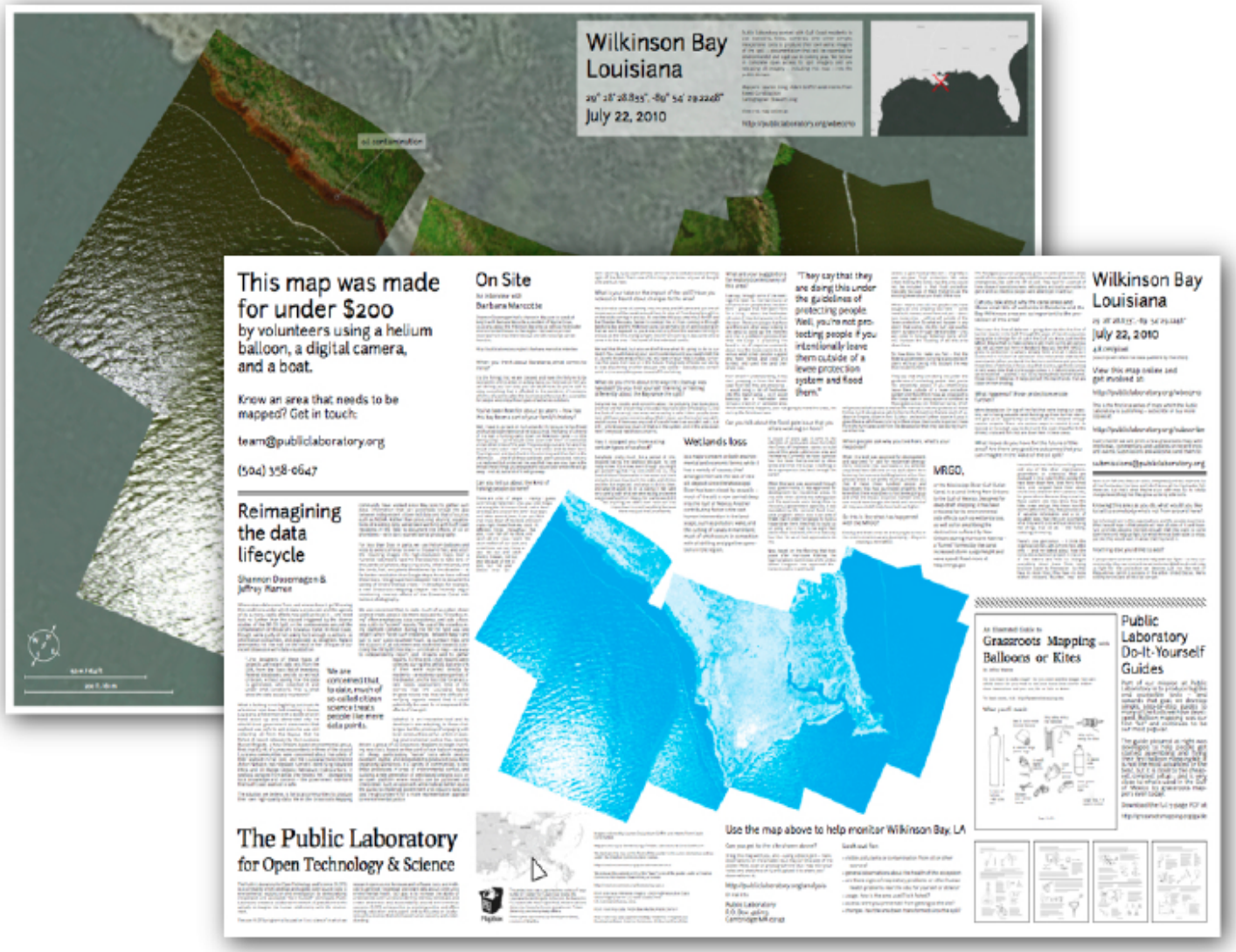
Maps and available formats

about these formats | about these licenses

Location	Capture date				License
Low Water Bridge. Shenandoah River. Bentonville, Virginia	July 20, 2012	geoTiff	jpg	tms	Public Domain
Corn Maze. Edmonton, Alberta, Canada	July 11, 2012	geoTiff	jpg	tms	Public Domain
Davidson Middle School. San Rafael, California.	May 15, 2012	geoTiff	jpg	tms	Public Domain
University of Kentucky W.T. Young Library. Lexington, Kentucky.	April 21, 2012	geoTiff	jpg	tms	Public Domain
Asheville Arts District. Asheville, North Carolina.	October 22, 2011	geoTiff	jpg	tms	Public Domain
Carney. Asheville, North Carolina.	March 10, 2011	geoTiff	jpg	tms	Public Domain
Caliente Ridge, Carrizo National Monument. Santa Margarita, California	January 1, 2009	geoTiff	jpg	tms	Public Domain
Carrizo National Monument. Santa Margarita, California	January 2, 2009	geoTiff	jpg	tms	Public Domain
Cementerio Cental. Bogota, Colombia.	March 12, 2012	geoTiff	jpg	tms	Creative Commons Attribution
Kamnolom. Dravograd, Slovenia	April 15, 2012	geoTiff	jpg	tms	Public Domain

1 2 3 4 5 6 7 8 9 … next ›
last »

Archive *publiclaboratory.org/archive*



Grassroots Mapping Forum *publiclaboratory.org/forum*

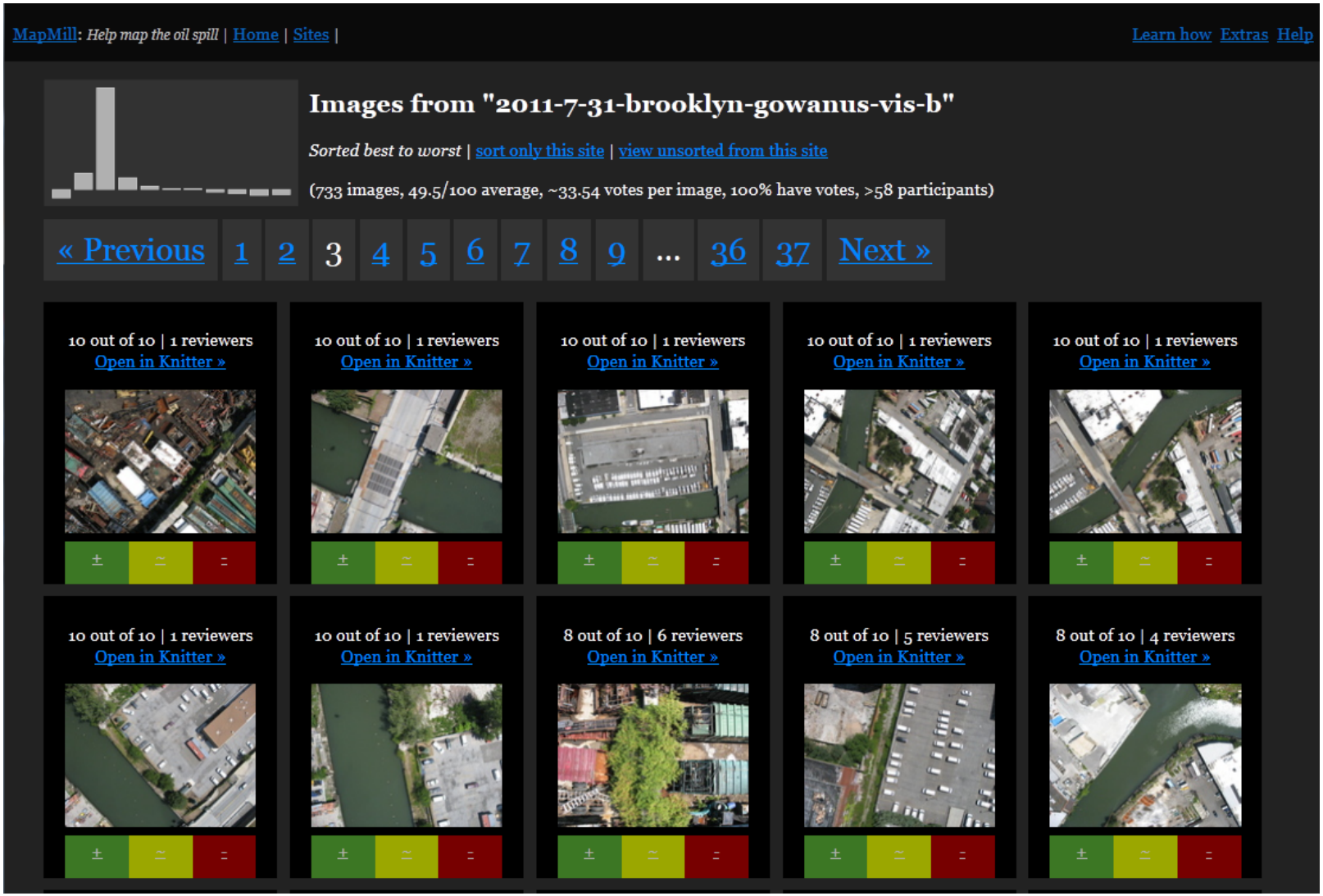
1. Engage researchers not subjects

2. Pull complexity off the shelf: modify minimally

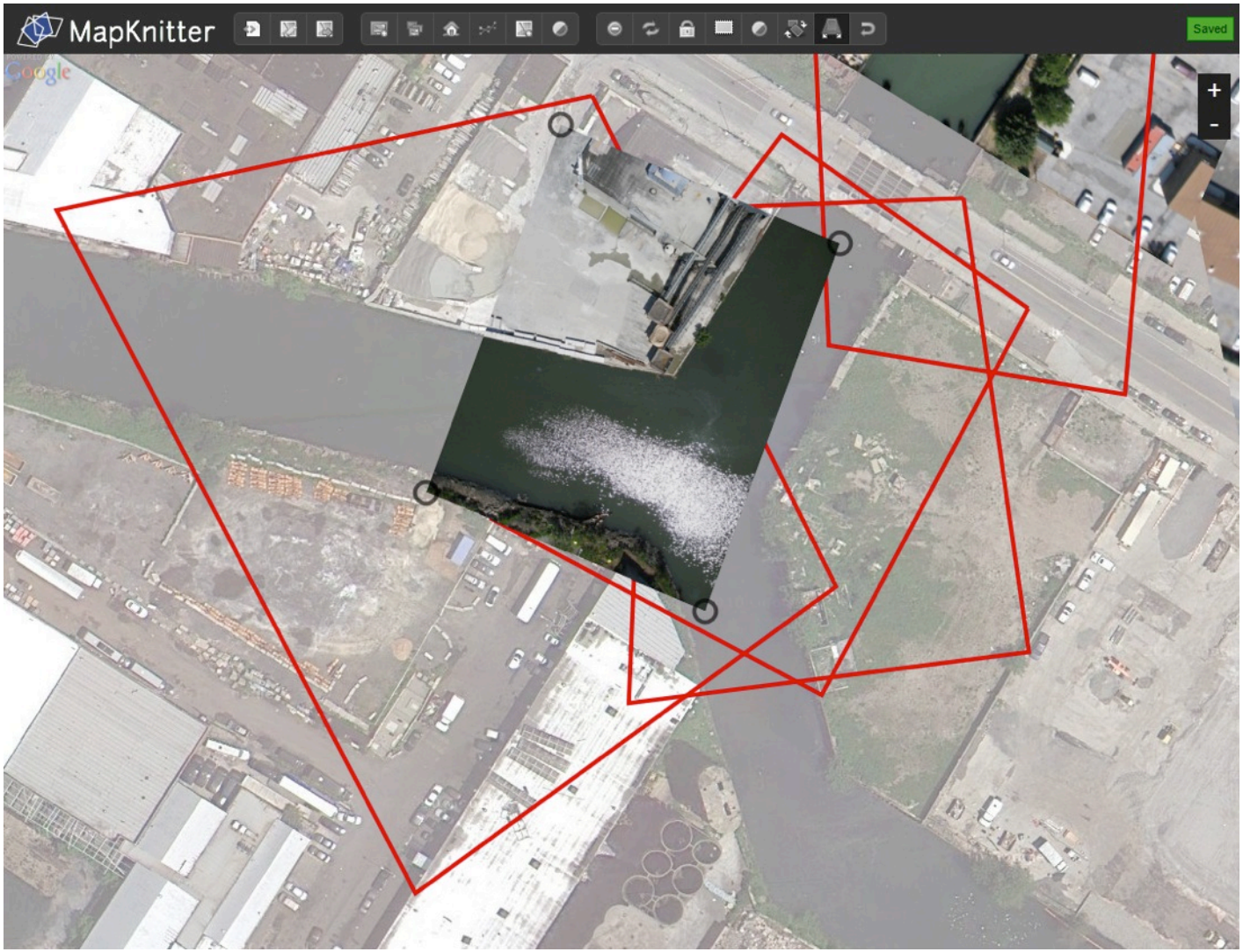
concealed operator

revealed operator

3. Build in openness & accountability



4. Create collaborative workflows



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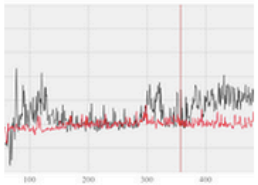

Analytics on aerial images -- using filesize
by: warren
1 day 8 hours ago
I'm looking for some easy ways to sort blurry images from crisp ones (and good from bad) for a...
Read more »
Tags: umbc

Coded ground control points
by: Jasja
1 week 1 day ago
Ground control point targets are useful to stitch photos on uniform or repeatitive landscapes. They...
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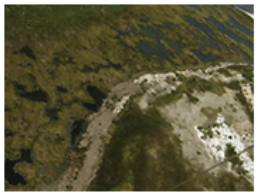
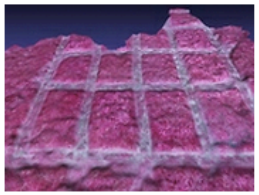
3-D Images- Big Branch Balloon Mapping
by: astoicof
1 week 2 days ago
After the balloon mapping trip at Big Branch National Wildlife Refuge on May 14th 2012, I created...
Read more »
Tags: big-branch, gulf-coast, louisiana



Point Platte marsh restoration over time; air vs ground
by: eustatic
1 week 3 days ago
Marsh restoration over time, by land, sea, and air In early 2010, GRN worked with bayou rebirth to...
Read more »
Tags: gulf-coast, louisiana

FABAoutfit for vertical KAP and BAP
by: Juan
2 weeks 2 days ago
This work is released under the Creative Commons/CERN Open Hardware License. The FABA Collective (...
Read more »
Tags: Spain



NRG images of cover crop trials
by: cfastie
2 weeks 4 days ago
I used Ned Horning's ImageJ macro to produce false color infrared (NRG) images from 108 of the...
Read more »
Tags: New Hampshire

Contributors

PLOTS members who have *contributed research notes* or *added to wiki pages* on this topic:

- *Jeffrey Warren* (283)
- *Stewart Long* (87)
- *MicheleTobias* (7)
- *Adam Griffith* (10)
- *Shannon* (23)
- *Liz Barry* (161)
- *Mathew* (104)
- *Cesar Harada* (2)
- *Jaekyung lee* (3)
- *Jeremy Crampton* (6)
- *maning* (2)
- *anita* (2)
- *Olivia* (2)
- *Chris Fastie* (35)
- *natevw* (4)
- *Joe Larson* (2)
- *Valerie* (2)

4. Create collaborative workflows

Balloon Mapping

Status: Proven in the field

Over the last year, we've build a global community of mappers who are engaged in civic issues with low-cost mapping tools like balloons, kites, and remote-control airplanes. We're helping citizens on the Gulf Coast use balloons and kites to produce their own aerial imagery of the Deepwater Horizon...

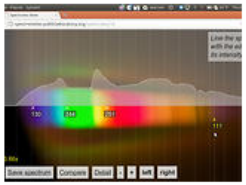
Used in: gulf-coast, lima, new-york-city, portland, western-carolina-university

Near-Infrared Camera

Status: In development

Infrared cameras for vegetation analysis Infrared photography can help assess a plant's health, and has been used on satellites and planes for agricultural and ecological assessment, mainly by vineyards, large farms and large-scale (read: expensive) research projects. By creating a low-cost camera...

Used in: gulf-coast, lima, new-york-city



Spectrometer

Status: In development

toc_collapse=0; Table of Contents Introduction The Tool: The Application: Online spectral analysis Resources, Downloads, FAQ Introduction What we often perceive as a single color actually consists of multiple blended colors- just as green paint can be made from mixing yellow and...

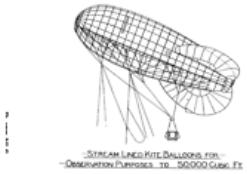
Used in: gulf-coast, new-york-city, providence, somerville-massachusetts

Balloon Telemetry Kit

Status: Early adopter only

This kit was created as a means to improve the georeferencing of images captured using balloon mapping. This kit is based around the open-source Arduino mircocontroller. Utilizing a GPS receiver, barometric sensor, three-axis accelerometer and data logger, this module allows for the synchronization...

Used in: new-york-city

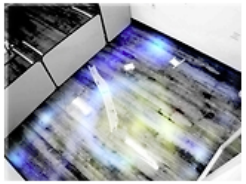


Kite-Balloon Hybrid

Status: In development

A kite balloon combines a lifting gas with active lift structures like wings to fly in all conditions. A good design may solve the common difficulty of flying in light winds, which makes balloon mapping difficult, but still falls short of kite-flying weather. It may also help reduce helium use, and...

Used in: lima, new-york-city, portland



Roomba indoor air quality mapping

Status: In development

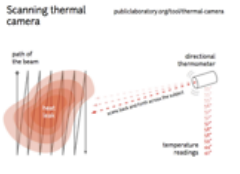
The RISD Environmental Justice Research Cluster in Providence uses a Roomba as a medium in order to reveal the condition of our surroundings. Roomba--the room cleaning vacuum--is programmed to travel all around a room once it is left to roam. Therefore, it is an ideal tool to assess the quality of...

Used in: providence

DIY Touchtable with Wii Remote

Status: Proven in the field

PlaceMatters has built and tested a variety of interactive touch screens and touchtables using Wii remotes and LCD projectors so participants can interact directly with maps, images, and brainstorming applications. Here is a video where we integrated the use of the touchtables with GIS and...



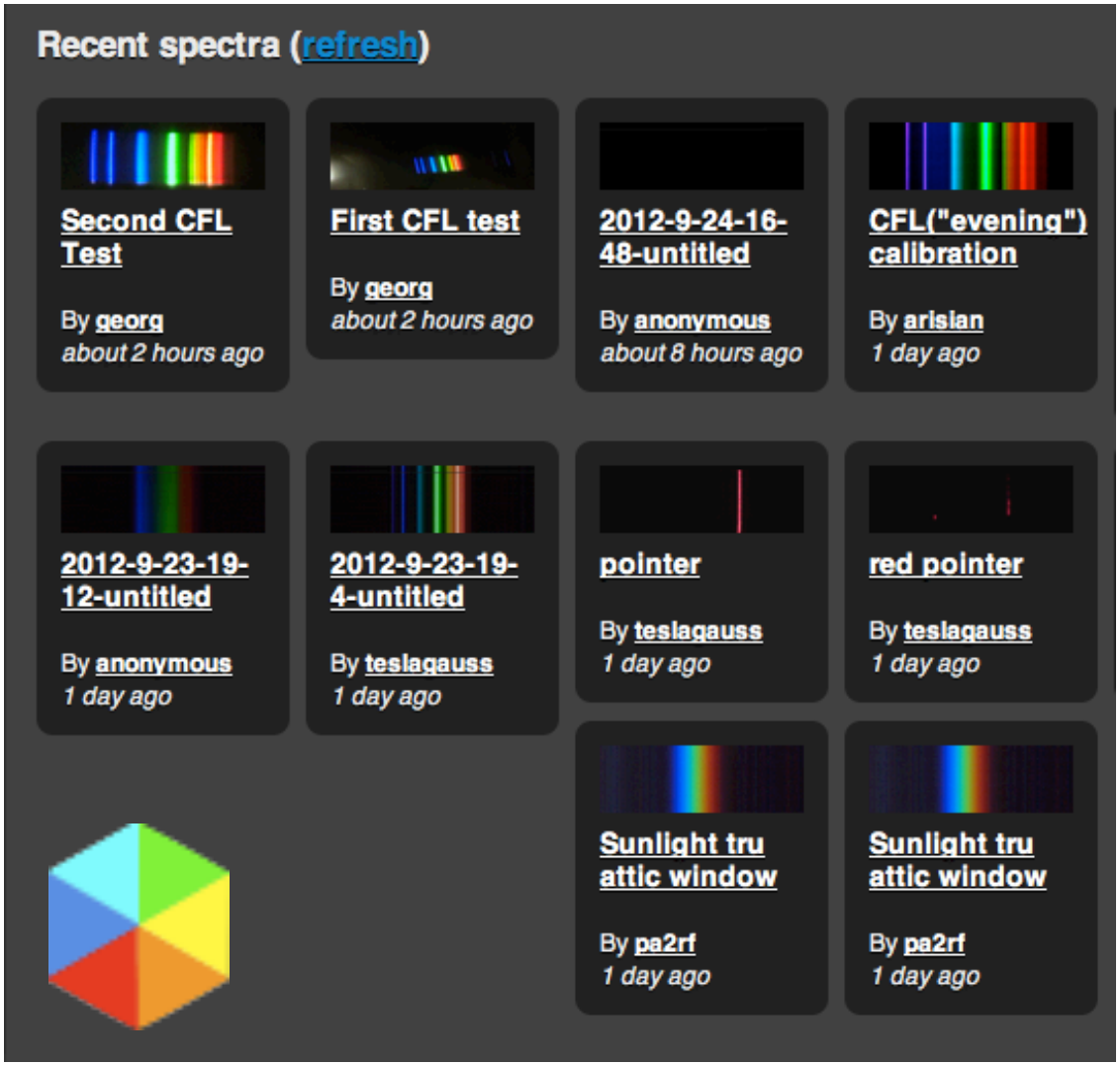
Thermal camera

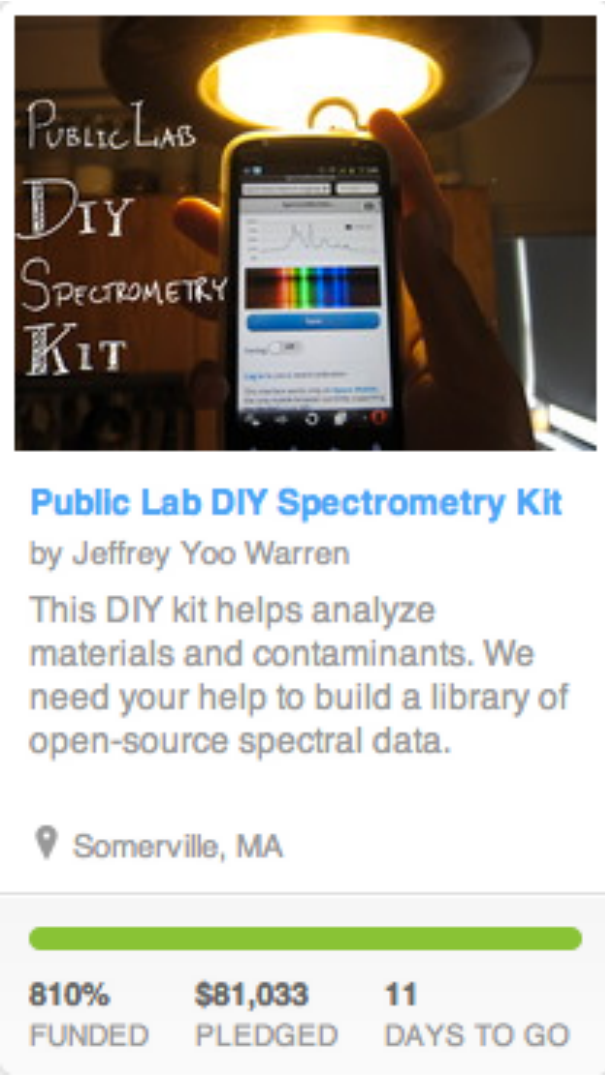
Status: In development

The DIY thermographer is a camera which creates an image of what temperature things are -- a 'heat' camera. We're making a 'scanning thermal imager' which means we just use a temperature sensor and sweep it back and forth across a scene, recording the temperature variation to build up an image that...

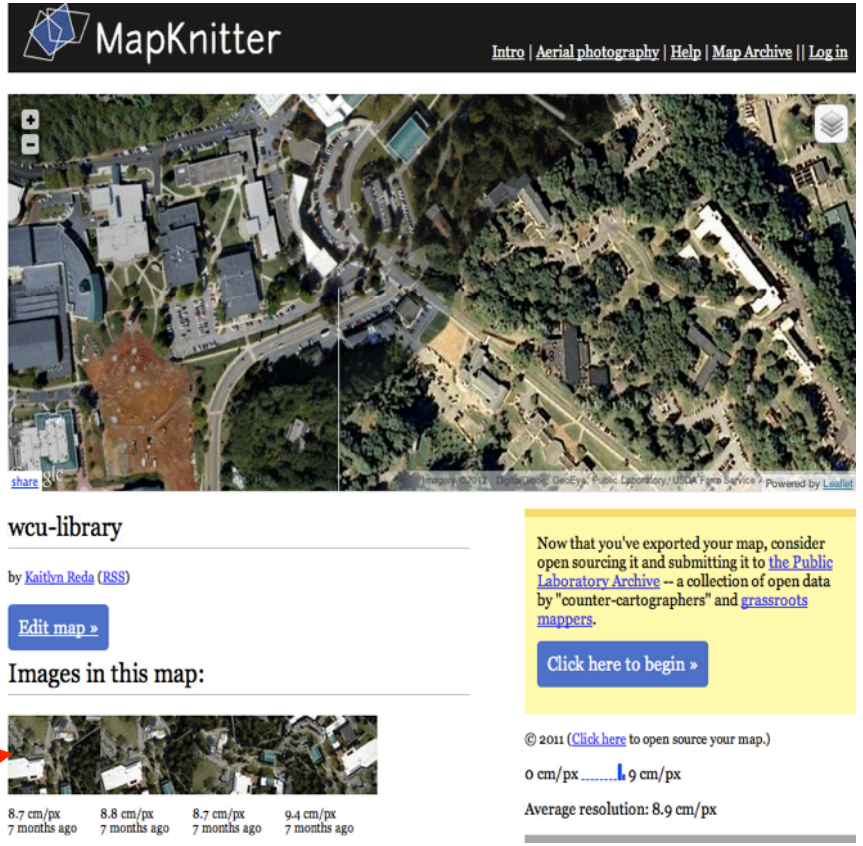
Used in: new-york-city

4. Create collaborative workflows





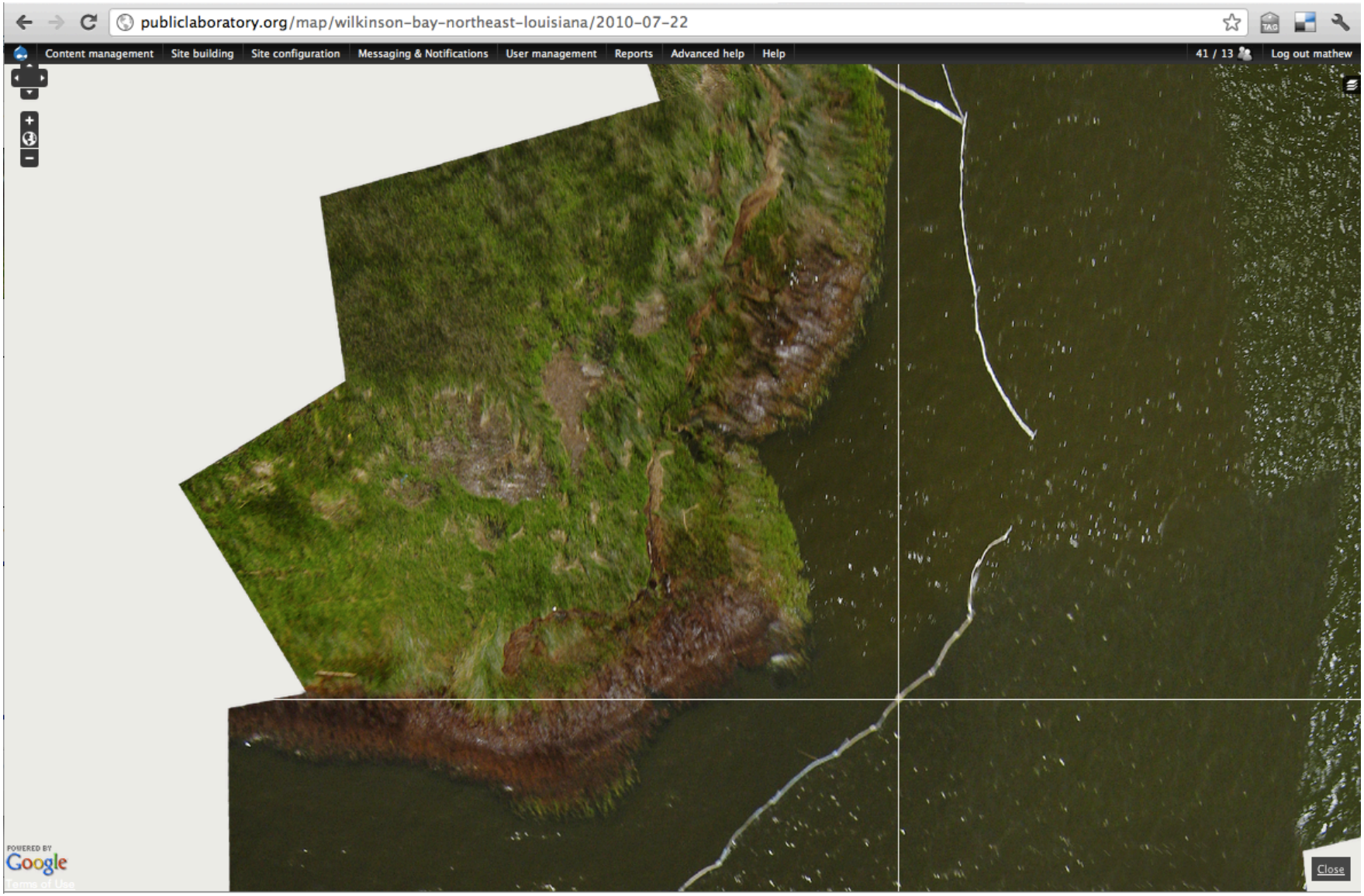
5. Maintain public data archives



See © Public Laboratory

Find the mapmaker & images

6. Mainstream true accountability



7. Let images communicate complexity

CERN Open Hardware 1.0
Share Back with Attribution

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8. Protect openness with viral licensing

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