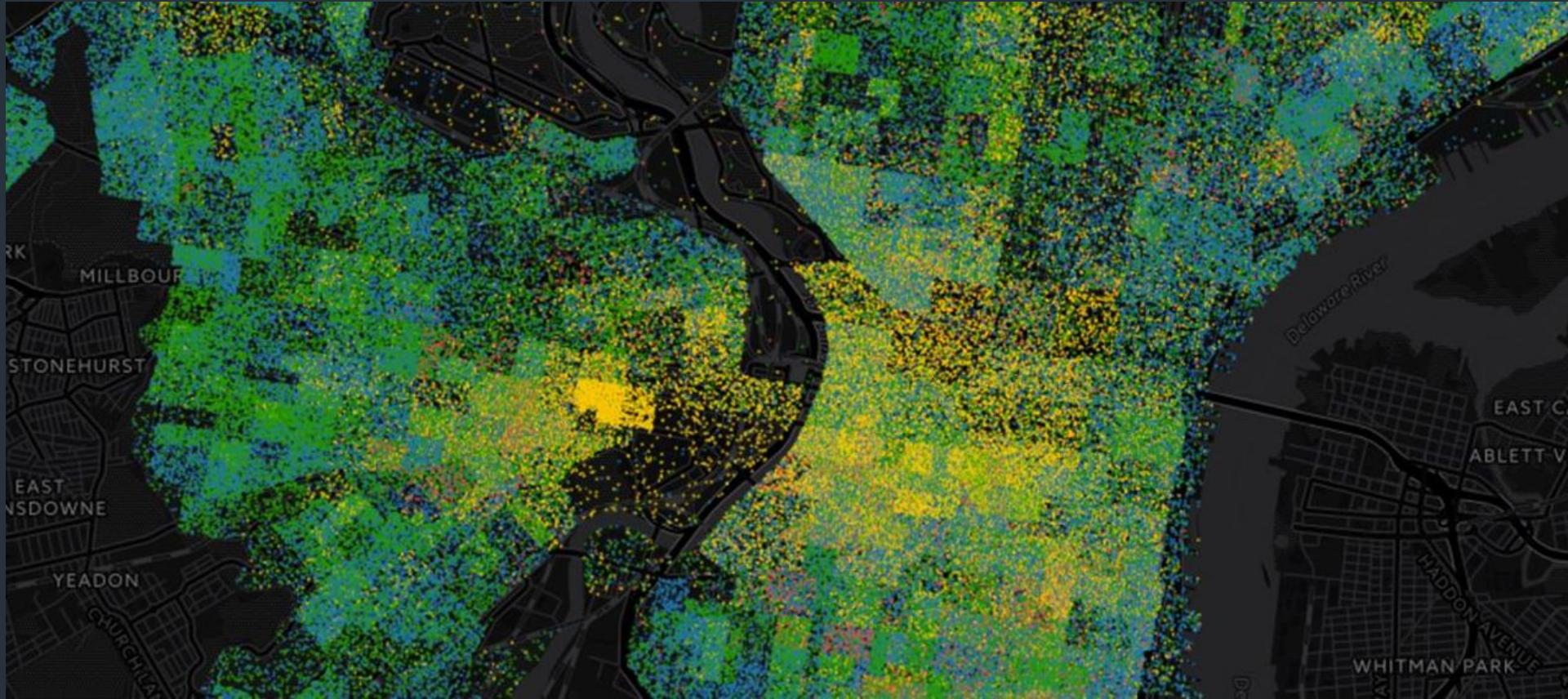
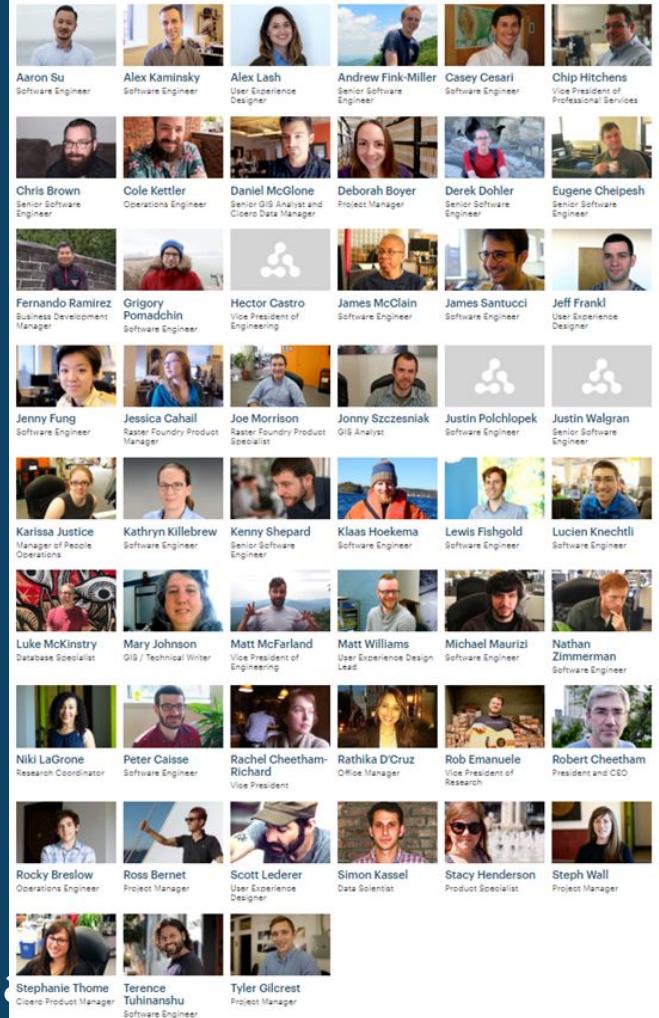


Azavea Project Selection Guidelines

Robert Cheetham

cheetham@azavea.com





Geospatial software and data analytics for good







USING BUSINESSAS A..... FORCE ➤ FOR GOOD

MEET the B CORPS ➤

new
resource
bank



patagonia

Etsy



betterWorldBooks™

Plum
organics

mod.

Ogden
publications



seve
genera



WARBY PA



B beneficial st

Why start Azavea?

Two key experiences





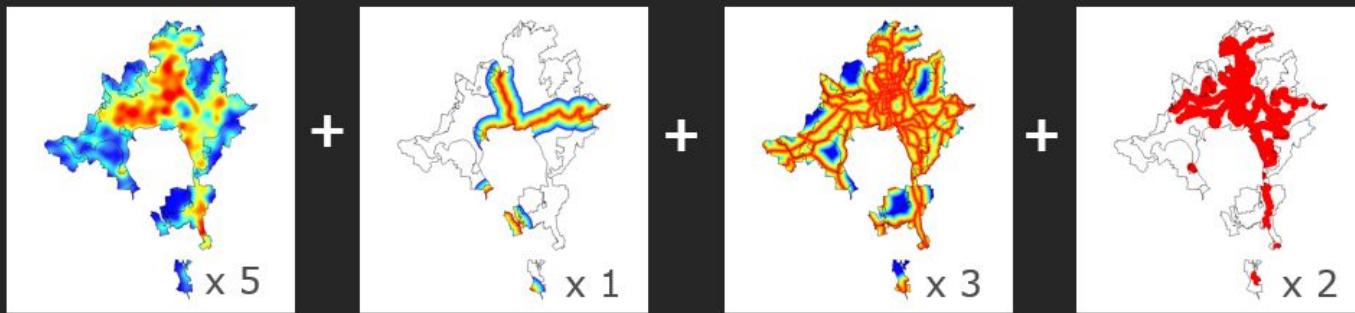




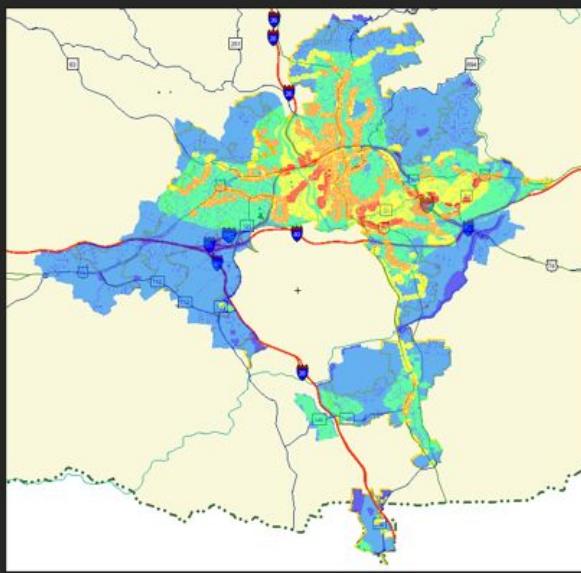


Ian McHarg





=



DESIGN WITH NATURE

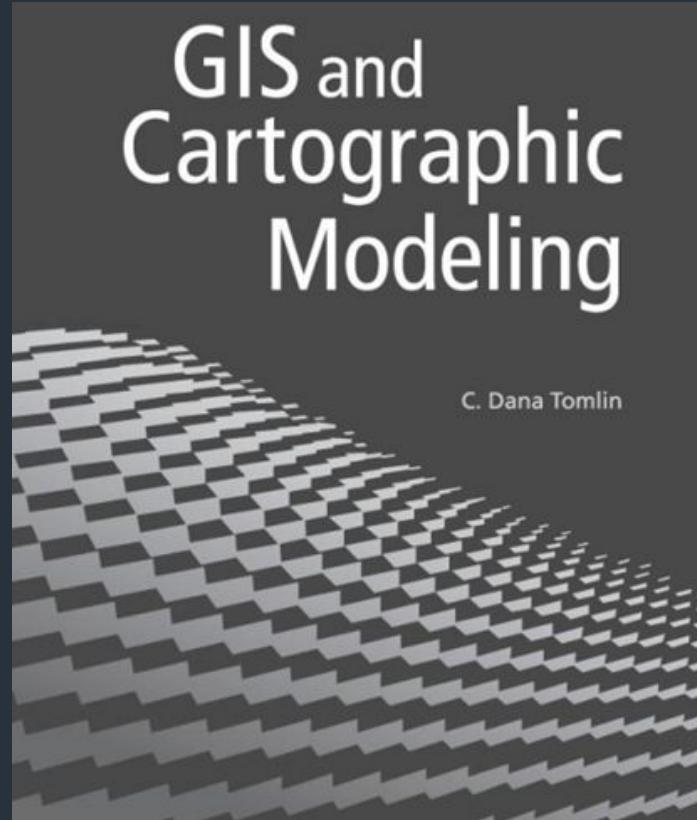


IAN L. MCHARG

25th
anniversary
edition

Landscape Architecture & Regional Planning

Dana Tomlin







student loans paid
\$ 15,000 savings
no customers
recession
knew what I liked doing
public service

Non-profit vs. for-profit

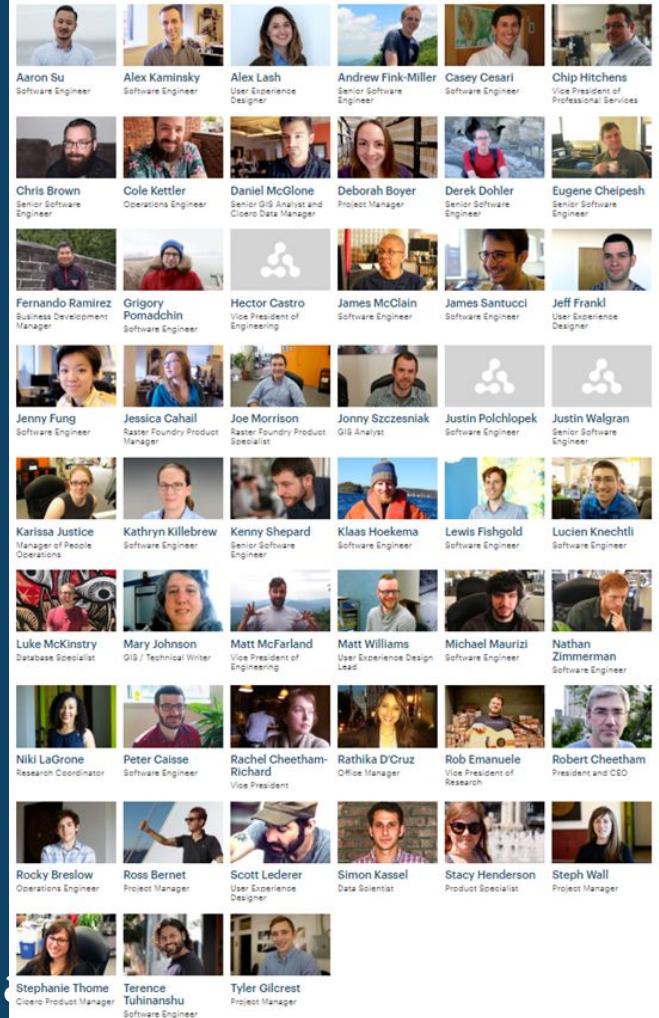
Two key experiences

1. Thrill of learning and exploration

2. Meaningful work

We advance the state-of-the-art
in geospatial technology ...

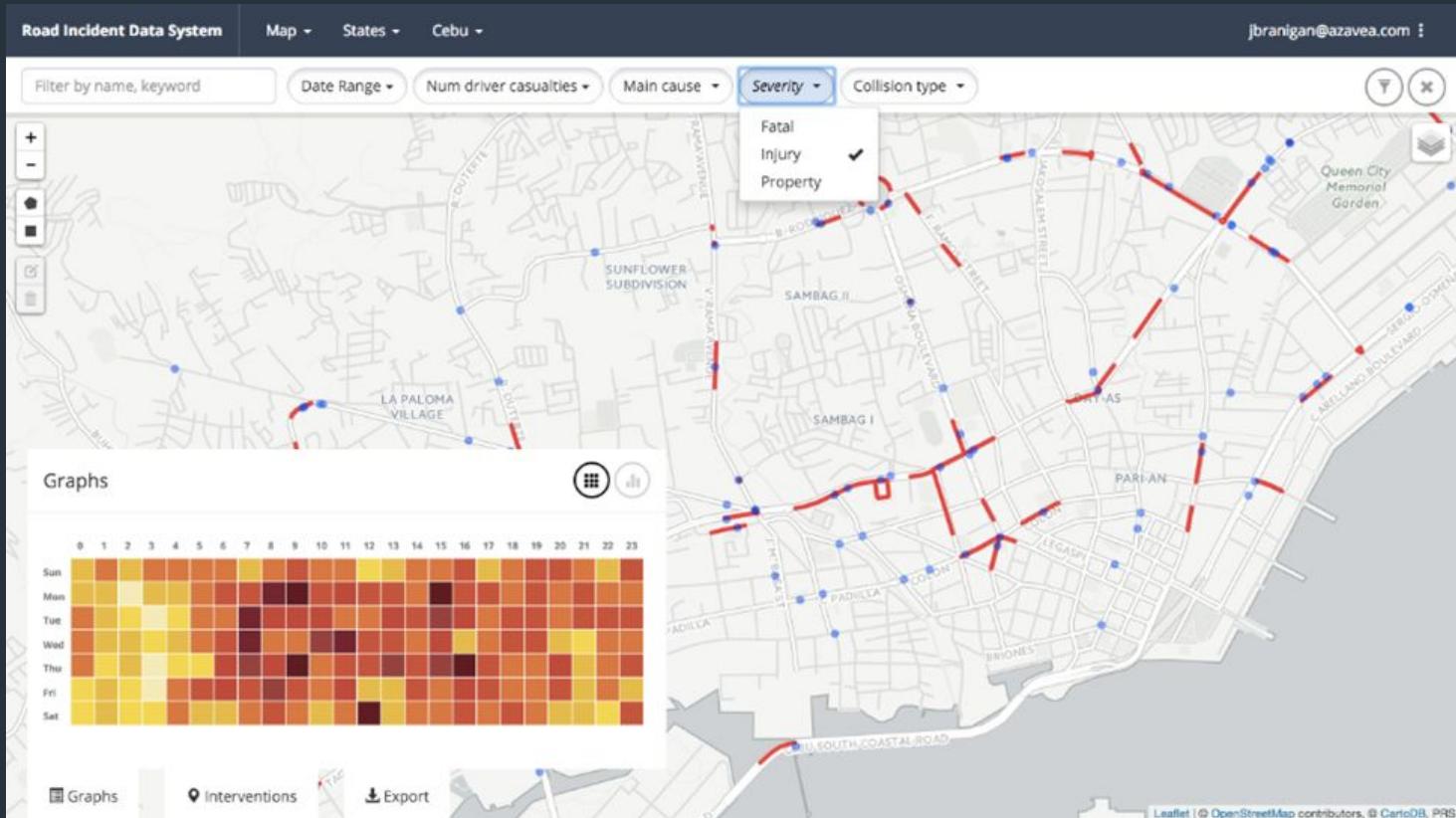
... and apply it for civic, social, and environmental impact.



Geospatial software and data analytics for good



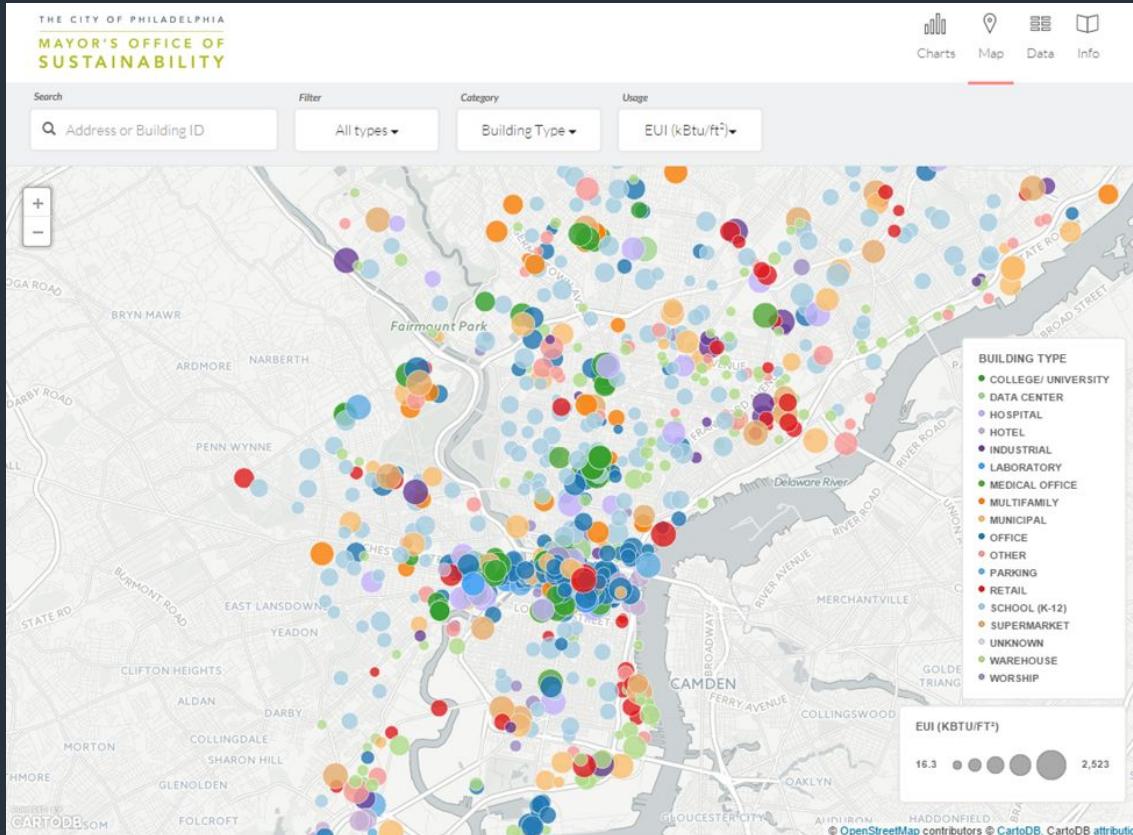
1. Geography and Place



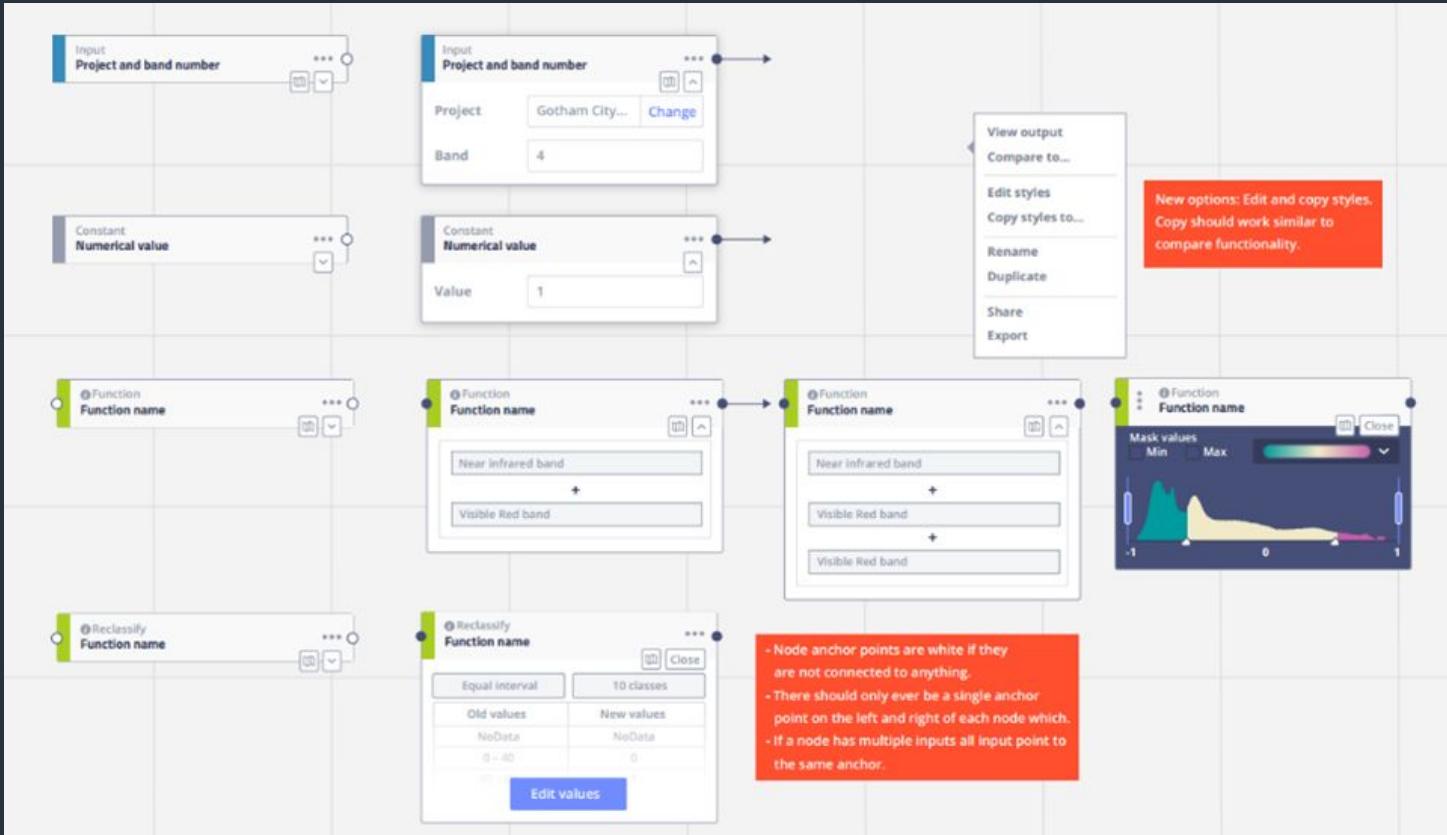
2. Civic, Social, and Environmental Impact



3. Simple, elegant design



4. Complex Problems



5. Open knowledge systems



5. Open knowledge systems



GeoTrellis



DistrictBuilder



openTreeMap



Raster
Foundry



OpenDataPhilly

TileJSON



rastervision

Lines of Business

- Custom software for the web
- Data analytics
- Reusable tooling, applications, and APIs
 - Cicero
 - Raster Foundry
 - Temperate
- R&D/Open Source
 - GeoTrellis
 - Raster Vision
 - Other new libraries

We express our mission through:

- 10% time
- Open source
- Open data
- Partner collaborations
- R&D investments
- Projects we select
- Fellowships
- Donate share of profits

Some of our work

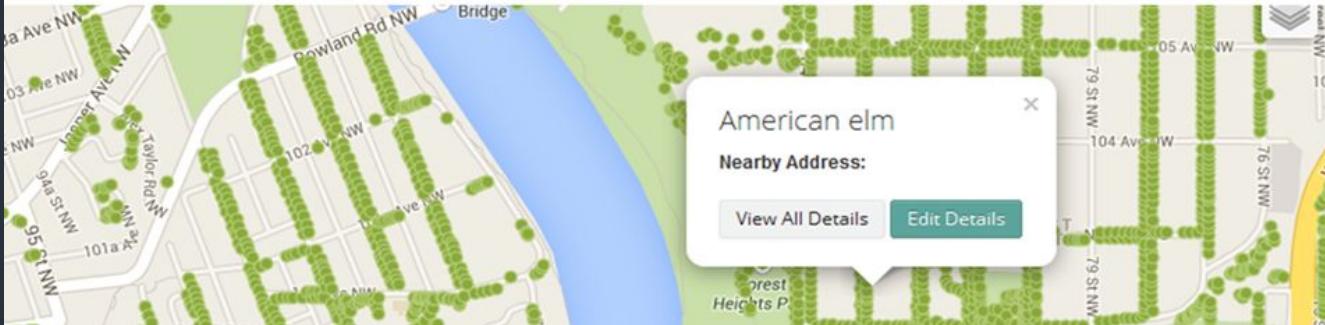
Urban Forestry



opentreemap

www.opentreemap.org

- Crowdsourced tree inventory
- Ecosystem services calculations
- Urban forestry analysis
- Community engagement



[Add a Tree](#)[Explore Map](#)[View Edits](#)[My Account](#) [Logout](#)

Search by Species

Common or Scientific Name

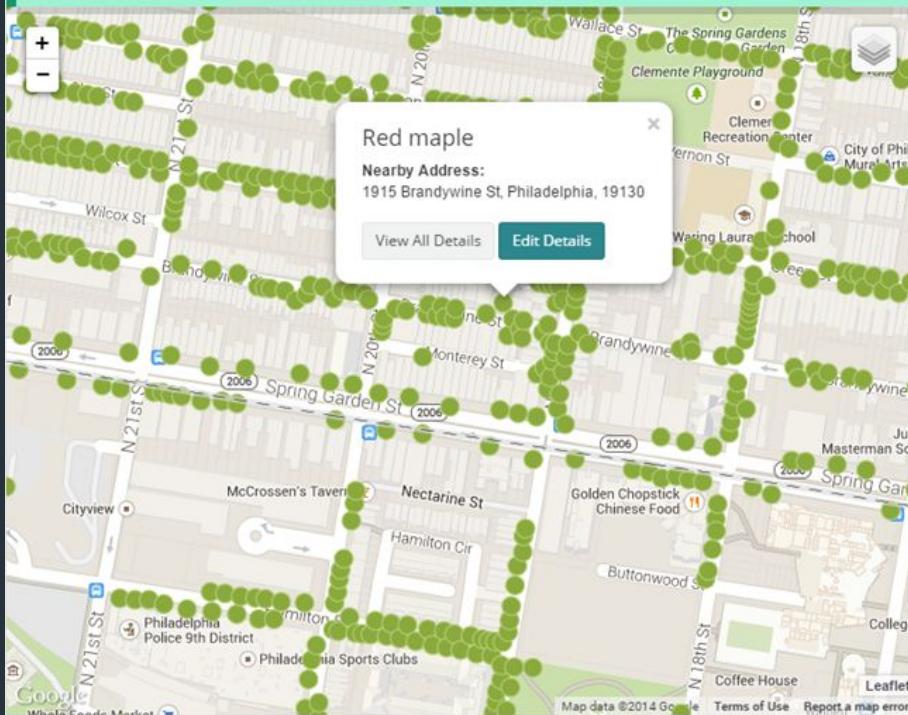
Search by Location

Address, City, State

Search

Advanced Reset

57,414 trees, 184,874 planting sites

[Export Search Results](#)[+ Add a Tree](#)

Tree Details

[Full Details](#) [Quick Edit](#)

Red maple
Acer rubrum

Trunk Diameter
12.0 in

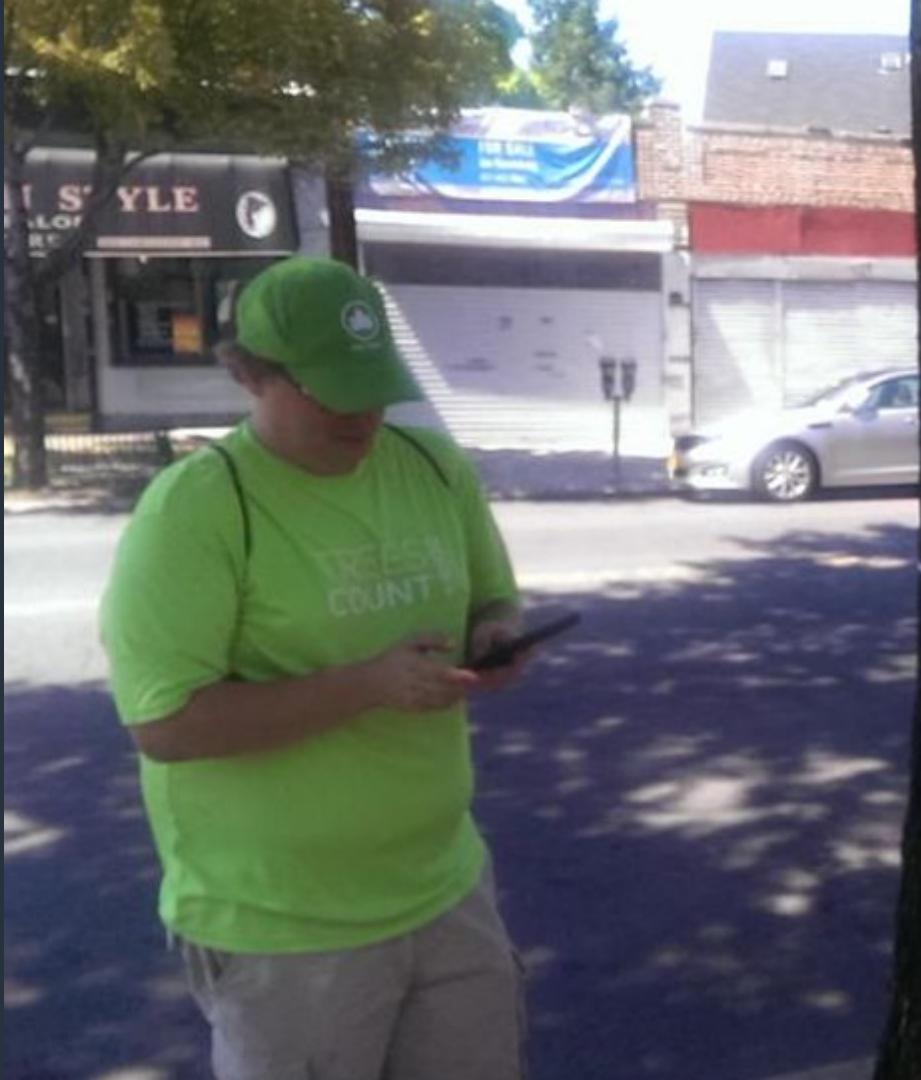
Tree Height

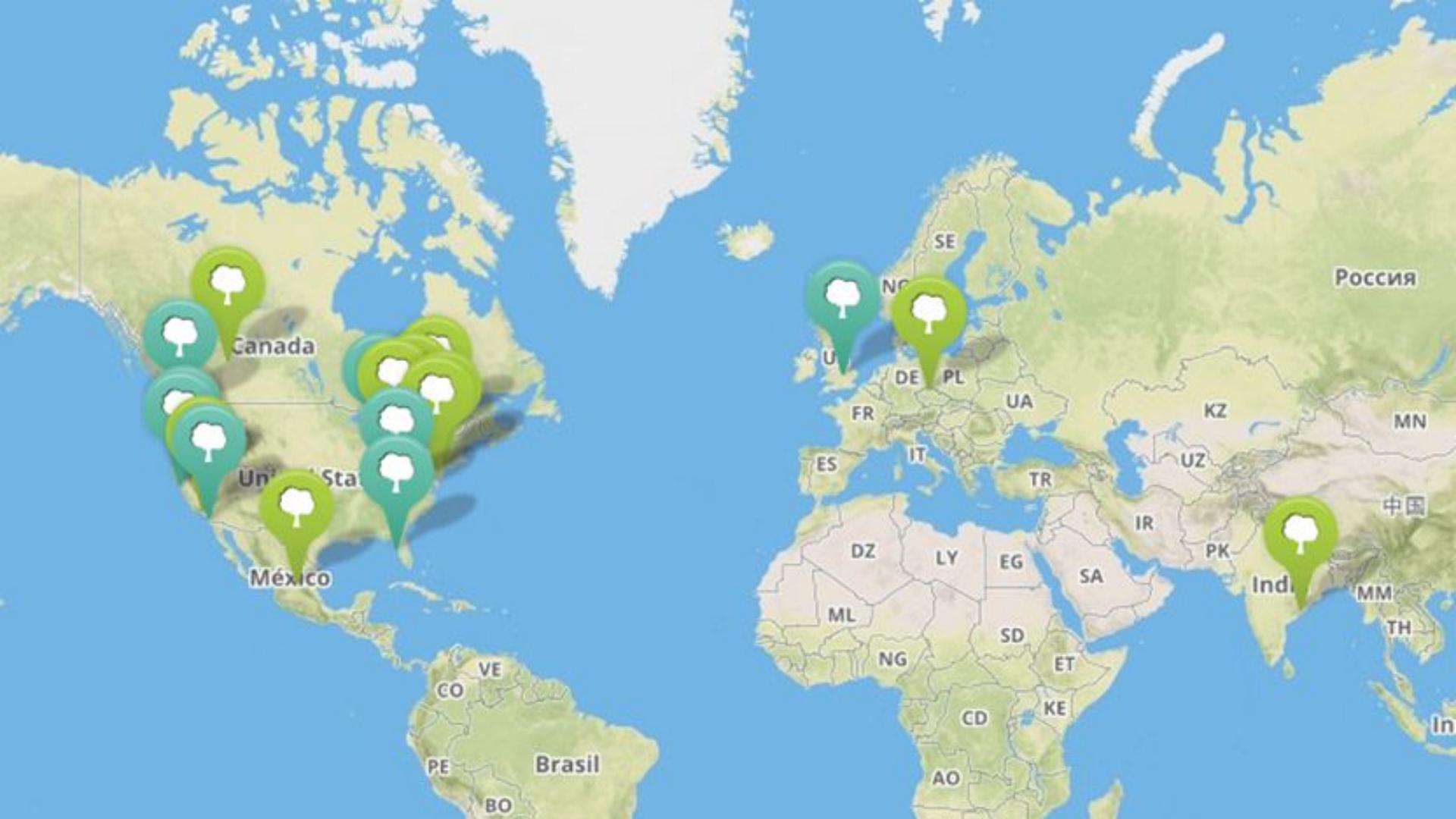
TREE BENEFITS

Energy conserved
877.0 kWh/year saved \$110

Stormwater filtered
1,353.9 gal/year saved \$13

Air quality improved
1.6 lbs/year saved \$7





Canada

United States

México

VE

CO

PE

Brasil

BO

SE

NC

DE

PL

UA

ES

IT

DZ

LY

ML

NG

SD

ET

CD

AO

KE

SA

IR

PK

MM

TH

IN

UZ

TR

EG

SA

IR

U

FR

DE

PL

UA

ES

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TR

EG

SA

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PK

MM

TH

IN

Россия

中国

Ind

Stormwater Infrastructure

Philadelphia's Historic Streams

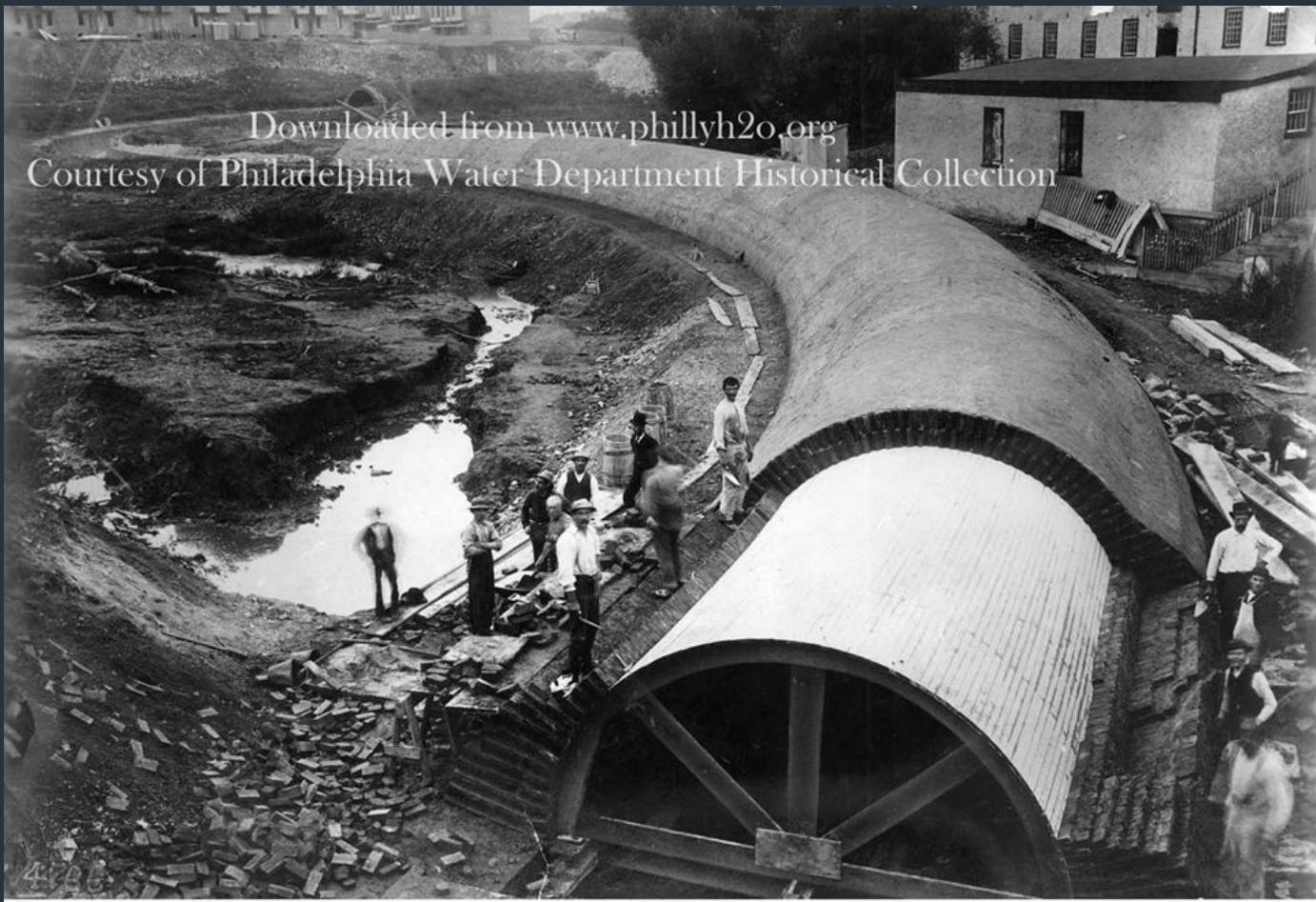


Philadelphia's Remaining Streams



Downloaded from www.phillyh2o.org

Courtesy of Philadelphia Water Department Historical Collection



~Mill Creek Sewer between 47th & Haverford.~









McLean

Pimmit Run

Fairfax
ArlingtonGulch
BranchDoravision
Run

DISTRICT OF COLUMBIA

Mt Rainier

MARYLAND

Pimmit Hills



A segment of the tunnel boring machine is lowered down a drop shaft at the Blue Plains Treatment Facility. When fully assembled, the excavator measured more than 100 yards in length. Photo: DC Water/Public Domain

Annandale

Arlington

VIRGINIA

Washington

Washington
Navy YardAlexandria (Va.)
Arlington (Va.)

Potomac River

Marlow H

Hillcrest Heights

powered by esri

Esri, HERE | Esri, HERE



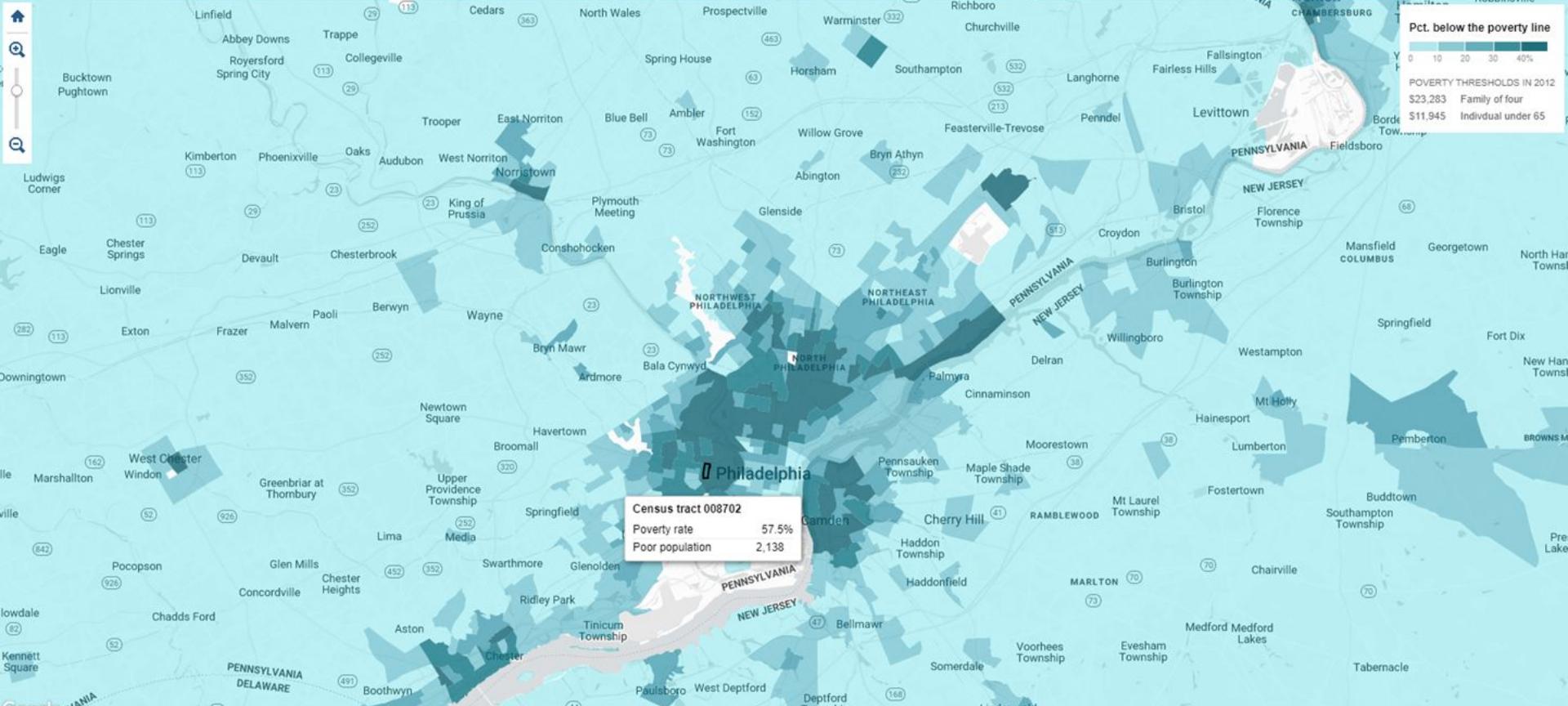


Mapping Poverty in America

Data from the Census Bureau show where the poor live.



VIEW Percentage below the poverty line
Number living in poverty





CITY OF PHILADELPHIA
DEPARTMENT OF REVENUE
WATER REVENUE BUREAU



Page 1 of 3

Water/Sewer & Stormwater Bill

Please pay **\$74.06**

Customer Name: JANE DOE
Service Address: 316 Bayview Terrace, Philadelphia PA 19126
Bill Date: October 30, 2017 (Bill Period: Sep 25, 2017 - Oct 25, 2017)

Your Account

Water/Sewer/Stormwater balance at last bill \$89.16
You last paid on 10/19/17 - thank you -\$89.16
Account Balance \$0.00

This Bill

Usage Charge (6 ccf, see below for details)	\$45.33
Service Charge	\$14.02
	\$14.71
	\$0.00
	\$74.06
	\$74.06
	\$74.06

Usage Charge

See a month-by-month usage history on the next page.

Meter Readings

Meter: 0367274 ERT: 0001820041 Service: 41R
October 25, 2017 actual reading 4036
September 25, 2017 actual reading 4030
Total CCFs used 6
Approximate gallons used per day 149



Please fold and detach

Account Number
090-12345-00316-001

Please pay **\$74.06**

Late payment penalty \$3.70
Total amount due if paid after Nov 29, 2017 \$77.76

JANE DOE
316 BAYVIEW TERRACE
PHILADELPHIA PA 19126

040 CITY OF PHILADELPHIA
DEPARTMENT OF REVENUE
WATER REVENUE BUREAU

3337208311600001234500316001100000156220000015664090000010000000003





See a problem with this property? [File an appeal.](#)

Please Note: The data on this site is to be used for stormwater billing purposes only, and is not intended to depict, and should not be relied upon to determine, the legal boundaries of parcels. The City of Philadelphia Records Department is exclusively responsible for maintaining the official parcel maps of the City, which are the graphical depictions of the legal descriptions contained on deeds that are also processed by the Records Department. The Streets Department's Survey Unit maintains maps that contain survey data and street plans.

Non-Residential

990 SPRING GARDEN ST

\$535.35

Total Monthly Charge

43,445 ft²

Gross Area

43,445 ft²

Impervious Area

SA 990SPRING GARDEN

STREET

883523100

OPA/BRT Account

Owner

⚠ This property is not currently receiving credits. [Apply for credits.](#)

[Download this page as a PDF](#)

Accounts

Account Number:

011-87990-00513-001

Show historic charge summaries

Rate Period:

Sep 1 2019 – Aug 31 2020

Monthly Stormwater Charge

\$535.35

Monthly Charge

513 N 10TH ST

Account Address

0 - 3"

Meter Size

SA 990 SPRING GARDEN

LP

Account Holder

1 - Water, Sewer &

Stormwater

Service Type

Gross Area Charge

\$62.38 >

Impervious Area Charge

\$470.67 >

Parcel Area-Based Charge

\$533.05 >



Credit Applications

[Text Search](#) [Status](#) [Date Received](#) [Type](#) [On Hold](#) [Recent Activity](#) [Expiration Brackets](#) [Recently Effective](#) [Revoked/Suspended](#)[Quick Search](#)

Enter Address, Name, User Name, Account #, etc...

Order By

Received Date ▾

Showing 25 of 2331 Applications found.

[3660 S LAWRENCE ST](#)

Received: Feb 20, 2020
Owner: Gary Novick

PWD: 028-4968003660001
OPA: 884154000
Case Num: 385899-R002

[Application Received](#)[2447 W OXFORD ST](#)

Received: Feb 20, 2020
Owner: null

PWD: 053-6212002447002
OPA: 291230800
Case Num: 23452-C001

[Application Received](#)[2447 W OXFORD ST](#)

Received: Feb 20, 2020
Owner: null

PWD: 053-6212002447002
OPA: 291230800
Case Num: 23452-C002

[Application Received](#)[4417 N 06TH ST](#)

Received: Feb 20, 2020
Owner: Juan Perez

PWD: 021-8791004417001
OPA: 885654860
Case Num: 513490-R003

[Application Received](#)[214 E GORGAS LN](#)

Received: Feb 12, 2020
Owner: null

PWD: 034-3770000214001
OPA: 222104200
Case Num: 22598-C001

[Application Received](#)[1701-41 TOMLINSON RD](#)

Received: Feb 12, 2020
Owner: Pat Toth

PWD: 048-77540-01741-001
OPA: 884232507
Case Num: 540555-R003

[Decision Issued](#)[Decision issued](#)[5715 WALTON AVE](#)

Received: Feb 12, 2020
Owner: Captain Crunch

PWD: 050-8130005715001
OPA: 463079200
Case Num: 19458-C001

[Application Received](#)[1115 LINDENHURST ST](#)

Received: Feb 12, 2020
Owner: null

PWD: 047-5088001115001
OPA: 583012700
Case Num: 452002-C007

[Under Review](#)[1900-02 POINT BREEZE AVE](#)

Received: Feb 12, 2020
Owner: Matt Barabee

PWD: 048-269705
OPA: 482269705
Case Num: 12513-C001

[Under Review](#)[300 ERNEST WAY](#)

Received: Feb 11, 2020
Owner: Joe Munizza

PWD: 060-3204500300001
OPA: 881224350
Case Num: 539969-R003

[Application Received](#)[1115 LINDENHURST ST](#)

Received: Feb 11, 2020
Owner: Foo

PWD: 047-5088001115001
OPA: 583012700
Case Num: 452002-C005

[Under Review](#)[1115 LINDENHURST ST](#)

Received: Feb 11, 2020
Owner: Foo

PWD: 047-5088001115001
OPA: 583012700
Case Num: 452002-C006

[Under Review](#)[1809 S DOVER ST](#)

Received: Feb 11, 2020
Owner: Foo

PWD: 043-2908001809001
OPA: 499277601

[Application Received](#)

Current Search Criteria

Date Received

All Applications

Recent Activity

All Applications

Credit Expiration Notices

Counts of Credit Applications expiring which have not been notified for the current timeframe.
48 Applications are waiting for their Three Month renewal notice

Generate letters Mark applications as notified.
Generates up to 200 letters at a time.

Recently Effective Renewals

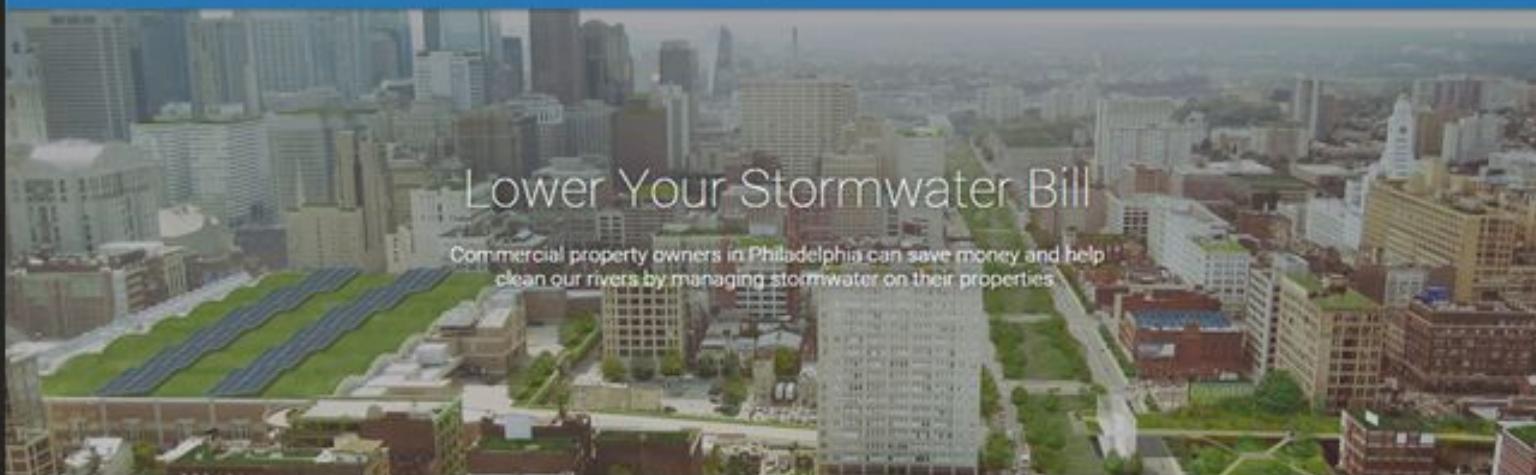
8 application(s) have become effective recently and need disposition letters.

Generate letters Move applications to "Disposition Letter Sent" status.
Generates up to 50 letters at a time.

Credit Renewals Letter Delivery Import

[Choose Files](#) No file chosen

Or drop files here



Lower Your Stormwater Bill

Commercial property owners in Philadelphia can save money and help clean our rivers by managing stormwater on their properties.

340 N 12th St



Or

Explore The Map



Why Green?

Philadelphia is using green infrastructure to soak up stormwater and protect our streams. Learn more about our Green City, Clean Waters program.

[More Info >](#)



Learn About Stormwater

Visit the Philadelphia Water Department's Stormwater Webpage to learn more about managing stormwater in the City.

[More Info >](#)



Contact Us

Contact us to discuss plans for your property or for more information about stormwater management programs.

[More Info >](#)

330-48 N 12TH ST

\$123

29%

Monthly Bill reduction

Impervious reduction

[← Permeable Pavement](#)

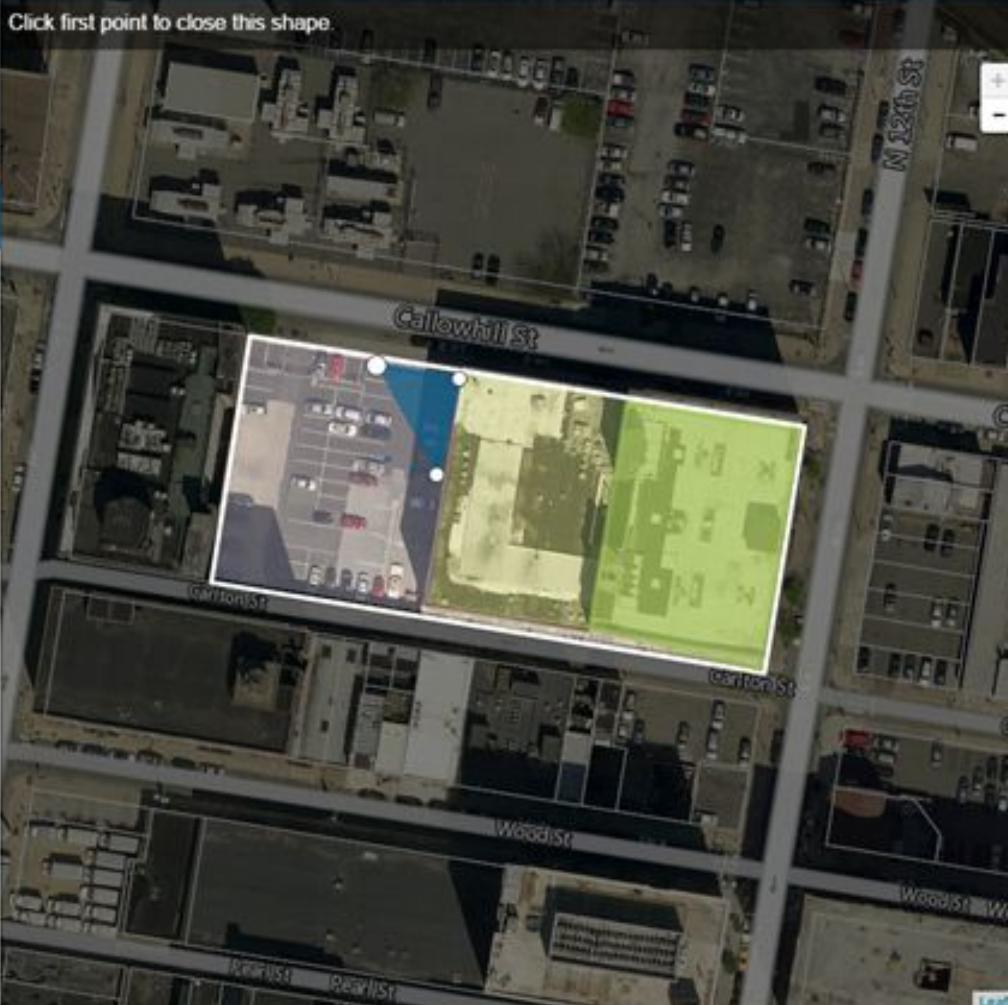
Permeable pavement is a form of hardscape that allows water to filter through the surface into the underlying soil or gravel. Permeable pavement can be made of concrete, asphalt, or pavers, and usually looks very similar to traditional pavement.

Step 1: Draw Permeable Pavement

Start drawing by clicking on the map where you want the Permeable Pavement to go.

[Reset](#)

Step 2: Stormwater Tool Results



330-48 N 12TH ST

[Print](#) [Share](#)**\$477**

Approximate Monthly Bill

\$238

Monthly Bill Reduction

54%

Impervious reduction

ADJUSTMENTS

Type	Managed Area (sq. ft.)	Monthly Reduction	One Year Reduction	Five Year Reduction	Ten Year Reduction
Green Roof	12,982	\$123	\$1,476	\$7,380	\$14,760
Permeable Pavement	2,531	\$24	\$288	\$1,440	\$2,880
Stormwater Basin	10,724	\$91	\$1,092	\$5,460	\$10,920
Totals	26,237	\$238	\$2,856	\$14,280	\$28,560



The credits values provided in the Stormwater Credits Explorer are for estimation purposes only. Actual credit values may be different when projects are actually completed and credits are applied.

TAKE ACTION

Contact

PWD is here to help! If you want to learn more...

Install

The Water Department makes public engineering...

Stormwater Grants

The Water Department offers grants to non-

Agriculture and Pollinators



Select Field or Farm of Interest



Outline the field or farm area of pollinator-dependent crop(s) that you would like to evaluate. Only one area of 400 acres or less can be drawn at a time.

[Cancel drawing](#)

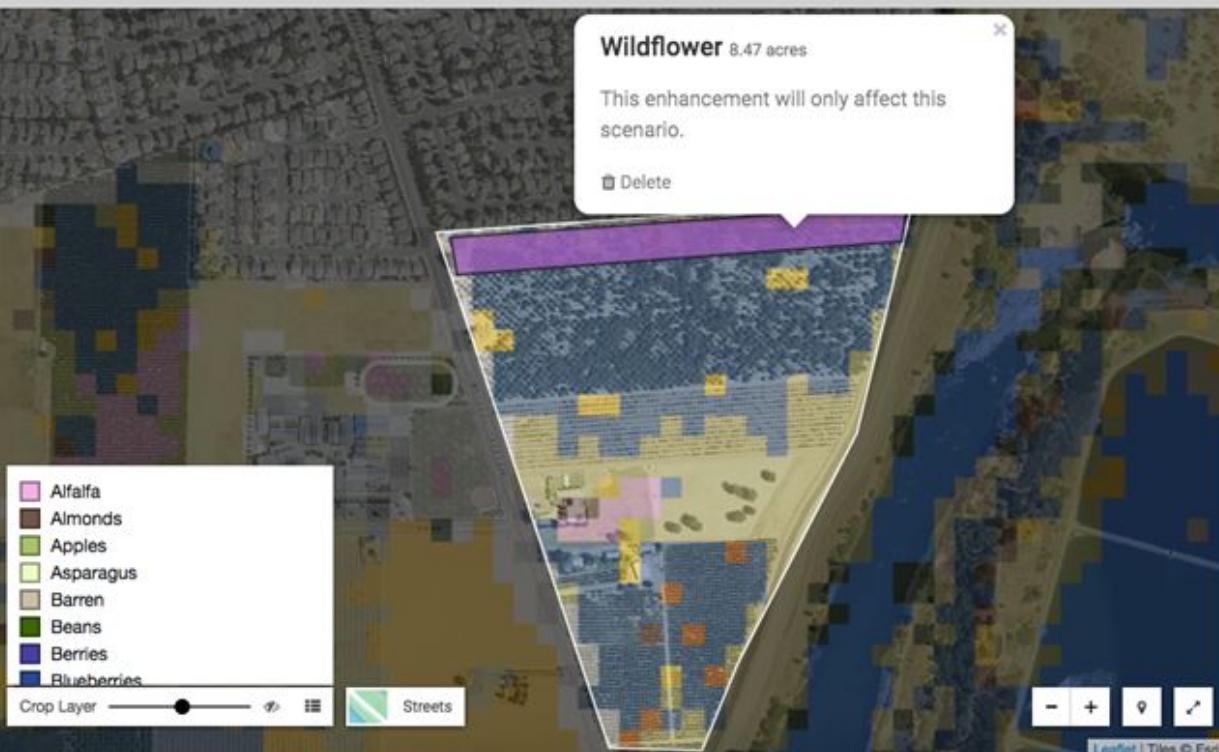
Land Cover

Enhancements

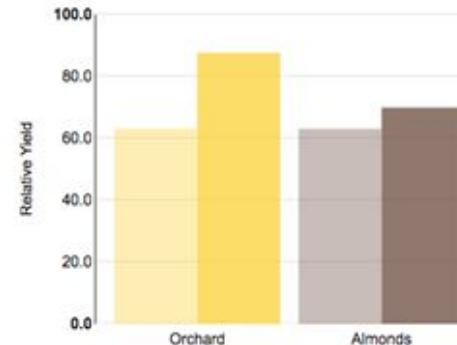
Managed hives per acre

1

1 Modifications



CROP YIELD



Relative yield represents the predicted crop yield relative to the potential maximum yield for that crop. This yield metric is based on two main factors: how much the crop is dependent on pollination to produce fruit and the number of wild bees expected to visit the crop given the quality of wild bee habitat in the surrounding landscape.

Crop	Baseline Yield	Scenario Yield
Orchard	63.175	87.656

Apparel Supply Chain

The scale of the global fashion industry

According to **Fashion United**, the global fashion industry is currently worth **US\$3 trillion**, or 2% of the world's GDP.

The industry employs **60 million people** throughout the value chain worldwide.



Who are those workers?

Image credit: NurPhoto
via Getty Images

A photograph of a woman in a green sari with a gold border, wearing a blue headscarf and a beaded necklace, harvesting cotton from a plant. She is holding a large white cotton boll in her hands. The background shows a field of cotton plants under a clear sky.

Social & environmental impacts

Image credit: Mile 91 for
C&A Foundation



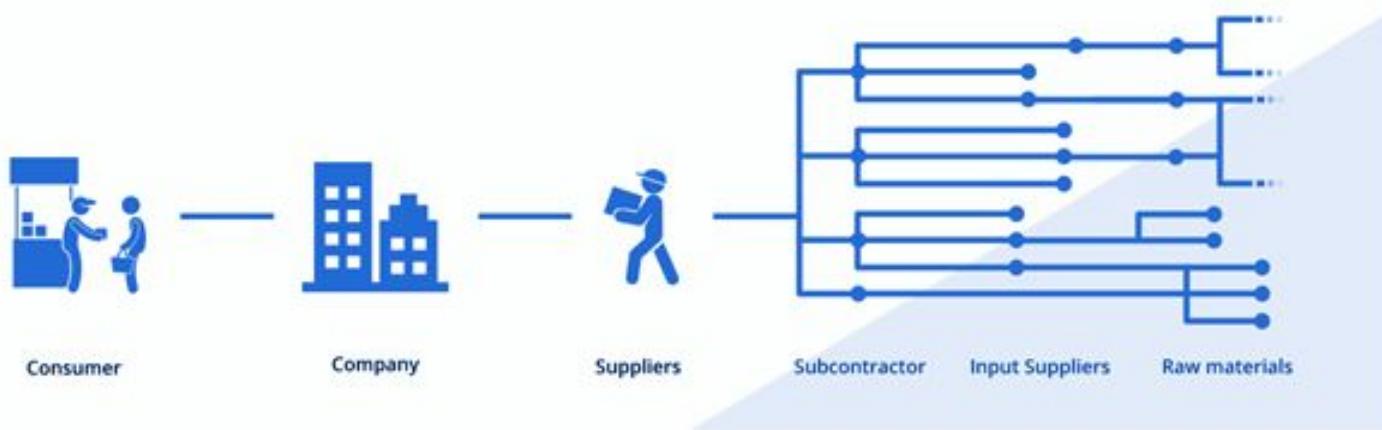
Image credit:
Ma Yijian/Flickr
CC

A photograph showing a person from the side, wearing a dark jacket and light-colored boots, crouching near a body of water heavily polluted with a bright red substance. The water is covered in debris, trash, and dead leaves. The scene conveys a sense of environmental degradation and pollution.

“There is a joke in China that you can tell the 'it' color of the season by looking at the color of the rivers.”

– Orsola de Castro, Fashion Revolution

Supply chains are complex





How can better data help?

Image credit: CEA
Foundation

Current state of play

Read about how your facility lists are processed and matched in this [guide](#)

Search ERROR_MATCHING X X Showing 14 of 1343 items. [SHOW ALL ITEMS](#)

Some potential matches require your feedback. Some items failed to be processed.

Rows per page: 20 ▾ 1-14 of 14 ⌂ ⌂

CSV Row Index	Country Name	Name	Address	Status	Action
64	Russian Federation	ASTER TEKSTIL d.o.o.NIS	Bulevar Sv. Cara Konstantina, 80-86 18000 Nis Southern and Eastern	ERROR_MATCHING	REMOVE
235	United Kingdom	Davaris Textiles S.A.	Ermou Street, 62, Metamorfosi 14452 Athens Athen	ERROR_MATCHING	REMOVE
924	India	Primetex (Unit B)	142 Le Lai Ngu Quyen District Hai Phong	ERROR_MATCHING	REMOVE





The Open Apparel Registry (OAR) is a neutral, open source tool mapping garment facilities worldwide and assigning a unique ID number to each

The screenshot displays the Open Apparel Registry (OAR) website interface. At the top, there is a navigation bar with links for HOME, ABOUT, TAGS, API, CONTRIBUTE, SELECT/PURCHASE, REGISTER, and LOG IN. Below the navigation bar is a search bar labeled "SEARCH THIS SITE". The main content area features a heading "Open Apparel Registry" and a sub-heading "The open map of global apparel facilities". There are three tabs: FACILITIES, SEARCH, and HOME, with "HOME" being the active tab. To the left of the map, there is a detailed description of how the OAR works, followed by a numbered process: 1. User adds a list of facilities from any tier of the supply chain (including raw materials - e.g. cotton farms or cattle ranches, for example). 2. The OAR software checks the uploaded list against facilities already in the system and uses the name and address to either match the facility with one already in the system, or to create a new facility on the map. 3. The user who added the list reviews the suggested matches and new listings and, in some instances where the algorithm cannot automatically make a decision, will be required to manually confirm or reject the options. 4. New, confirmed facilities are given their own unique OAR ID - a valuable tool for linking facilities across software systems and databases - and are added to the map. At the bottom of the page, there are links for "privacy policy", "terms of service", and "about".

What does the OAR do?



Creates one common registry of facility names and addresses and an industry standard facility ID



Eliminates issues with matching across multiple, inconsistent databases



Enables in-facility collaboration between organizations

A unique ID number

- Each unique facility in the OAR is allocated an ID number
- The OAR ID does not replace any existing ID schemes
- It serves as a central **source of truth** alongside name and address data

CN-2019067-NZ95A-M



Case studies

1,000 garment worker dismissals in Cambodia

*"We were able to **swiftly reach out to brands** sourcing from the factory, **identified through the OAR**, asking for their response and plan of action... Through pressure from many quarters, including brand interventions, **the majority of workers were reinstated.**"*



12,000 workers sacked in Bangladesh

"The repression is ongoing, yet the OAR has allowed us to continue to identify brands to encourage or cajole as developments unfold."



IMAGE SOURCE:
REUTERS/MOHAMMAD
RONI HOSSEIN

Vulnerable migrant workers in Mauritius

"There have been some remedial steps taken (backwages, re-employment for some, repatriation talks with the Mauritian government, re-installation of water and power lines etc). Obviously much more is needed to be done..."

but even these impacts that have been achieved so far would not have been possible without the OAR!"

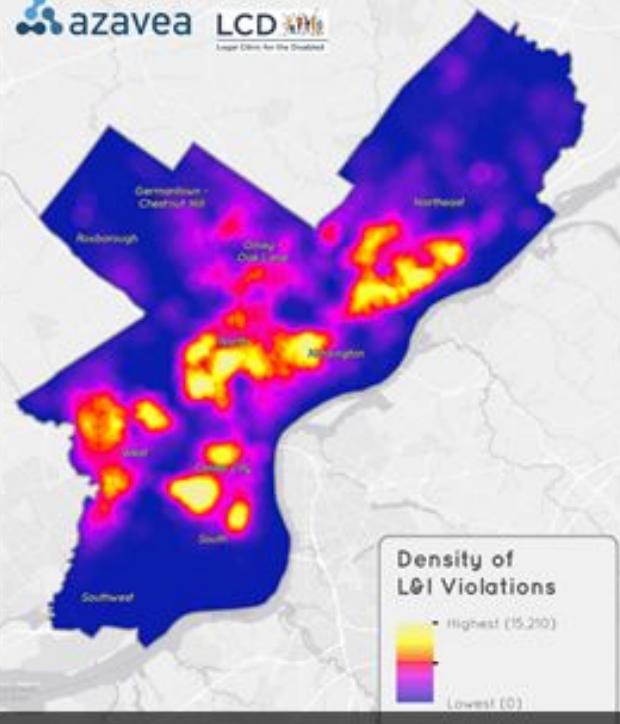
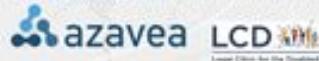


© Craig Hibbert

Summer of Maps

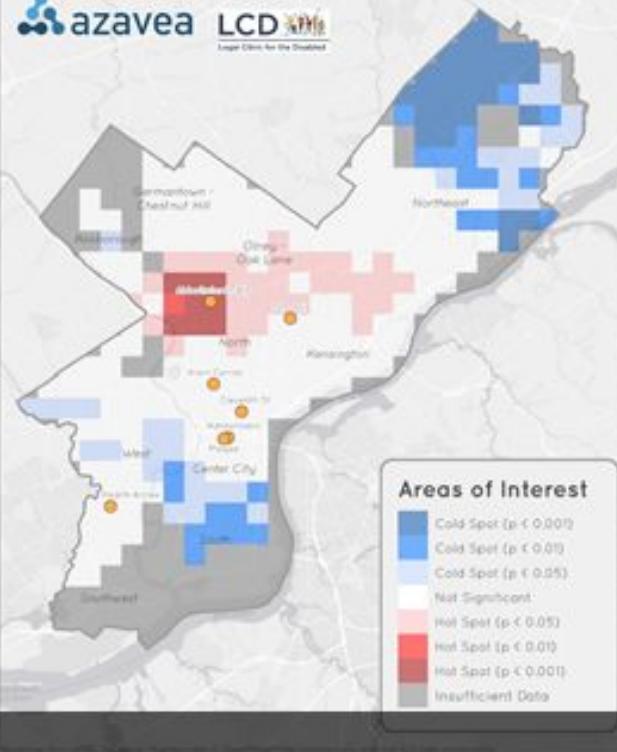
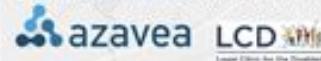
License and Inspection Violations

Density analysis for all violations in the Licenses & Inspections database



Hot Spot Analysis: MLP Intakes

LCD Intakes from Medical-Legal Partnerships, 2010 - 2015

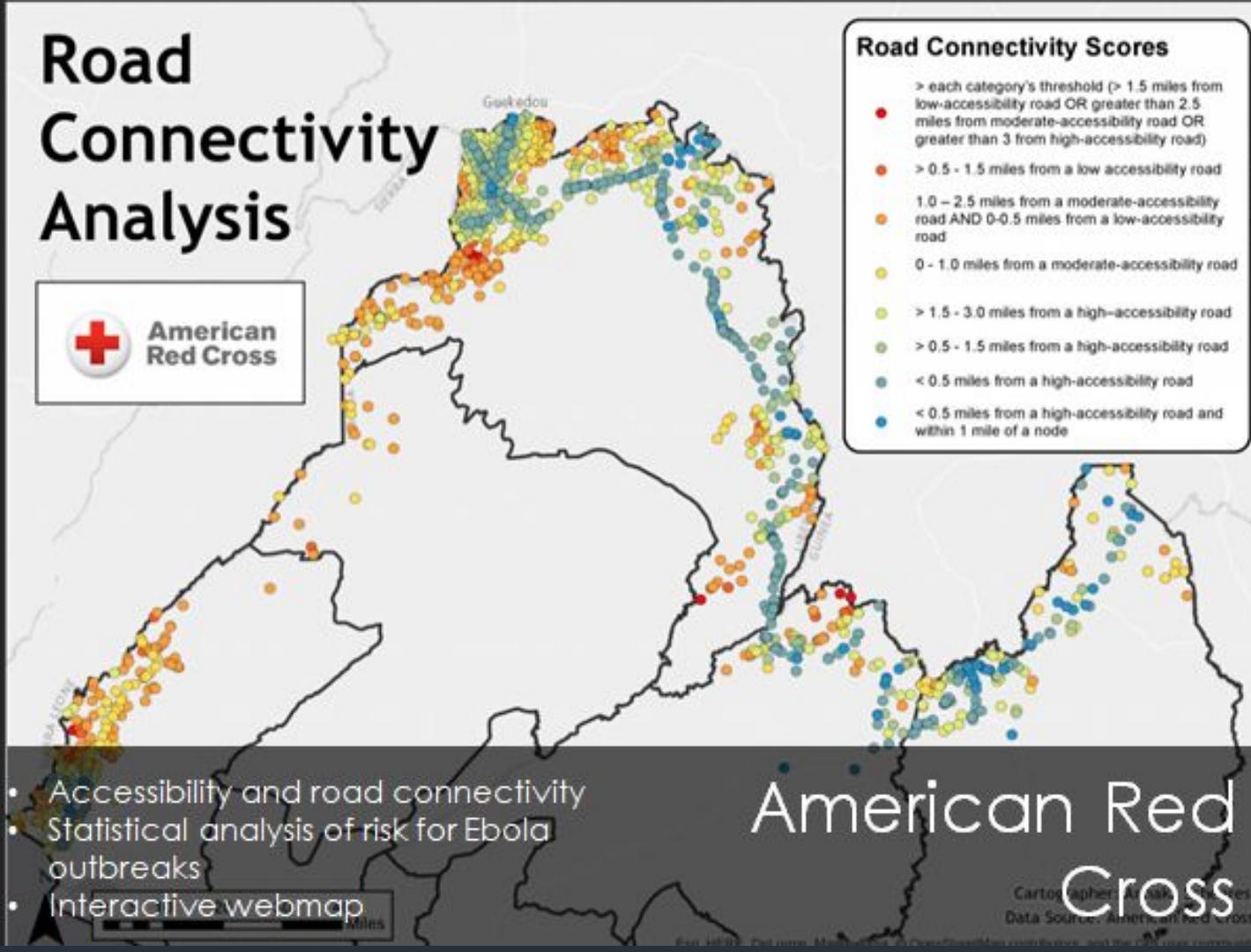


Legal Clinic for the Disabled

Road Connectivity Analysis



American
Red Cross



- Accessibility and road connectivity
- Statistical analysis of risk for Ebola outbreaks
- Interactive webmap

American Red
Cross

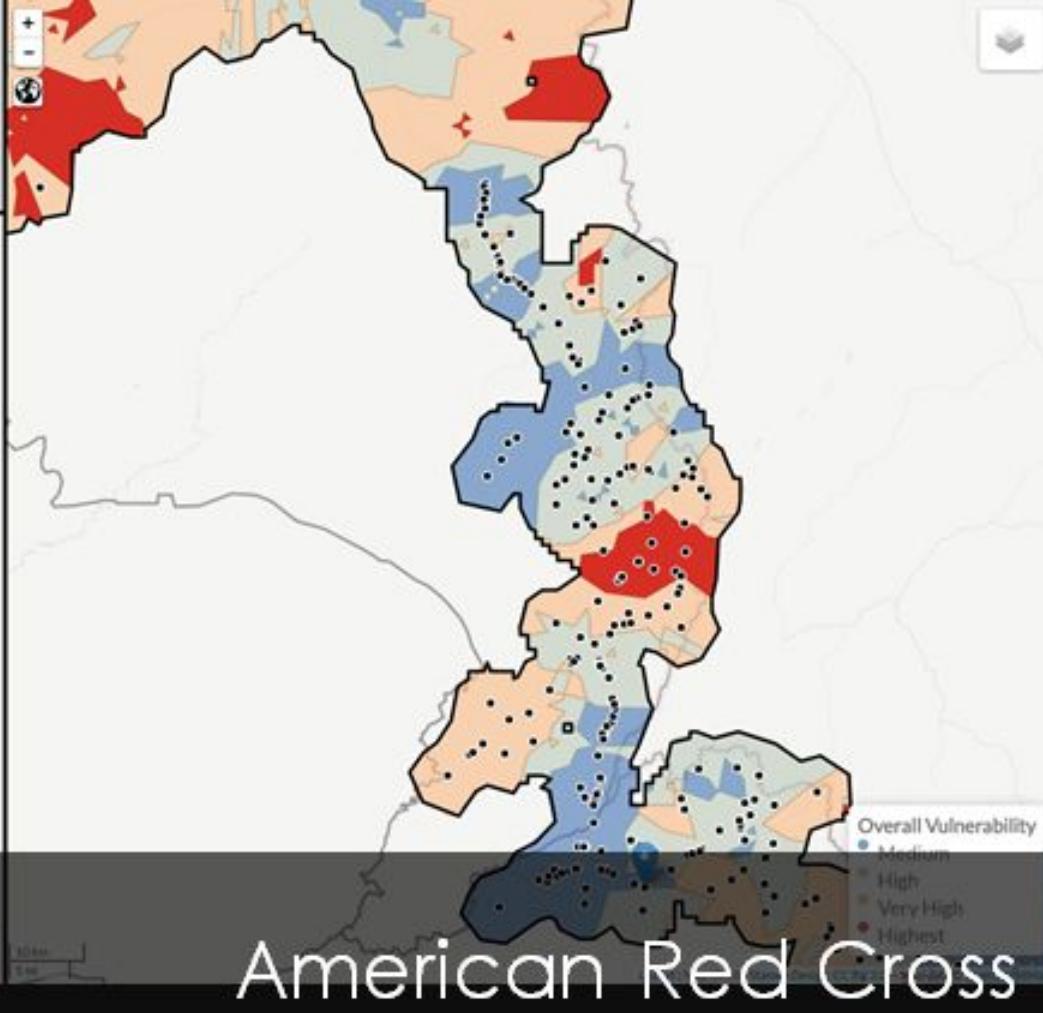
Cartographer: Alastair Miles
Data Source: American Red Cross

COMMUNITY VULNERABILITY IN LIBERIA

This map shows the results of a vulnerability and community mapping project conducted in 2016. Volunteers travelled to communities within 15km of the international borders between Liberia, Guinea, and Sierra Leone in order to gather information about factors that influence vulnerability, such as distance from health facilities, condition of water sources, etc. The purpose of the project is to gather data about community locations and to create information that can be used to identify priority areas for interventions.

The surveyed communities appear in black on the map. Clicking on the black dots will reveal the community name and more information about it. Areas around these communities are color-coded to indicate findings. In addition, you can explore different aspects of vulnerability (such as health and WatSan) by clicking through the buttons in the top-right corner of the map.

For more information about the project and how to use this webpage, contact Emily Eros (emily.eros@redcross.org), the American Red Cross GIS Team Lead.



Project Selection Guidelines

Why?

How it's used

- Evaluating a potential RFP or other invitation for proposal
- Evaluating and communicating with a potential client or partner
- Reevaluating a client or partner at the end of a project
- Reviewing a proposal or budget draft
- Responding to questions from job candidates

Questions we ask

- Client
- Technology/Skills
- Impact
- People
- Strategic Alignment
- Financial Risk
- Reputation Risk

Guidelines

We want to be on the right side of history

Open knowledge systems
are usually better than closed

Have the courage to take on difficult topics

We don't renege on commitments
in the middle of a contract

Democracy is the worst system...
except for all of the rest

We only have one planet

When there is uncertainty,
we discuss the issues

A team needs to own the project

Above all, do no harm

We do not work on weapons systems,
warfighting, or activities that will violate
privacy, human rights, or civil liberties

Products vs. Services

Product Terms of Service

- disseminate or transmit material that, to a reasonable person, may be abusive, obscene, pornographic, defamatory, harassing, grossly offensive, vulgar, threatening, or malicious;
- disseminate, store, or transmit files, graphics, software, or other material that actually or potentially infringes the copyright, trademark, patent, trade secret, or other intellectual property right of any person;
- create a false identity or to otherwise attempt to mislead any person as to the identity or origin of any communication;
- export, re-export, or permit downloading of any content in violation of any export or import law, regulation, or restriction of the United States and its agencies or authorities, or without all required approvals, licenses, or exemptions;
- host, transmit, or provide Azavea with Protected Health Information (as defined by Health Insurance Portability and Accountability Act (HIPAA));
- rely on the Services for dangerous activities such as emergency services or air traffic control, where use or failure of the Services could lead to death, personal injury, or significant property damage;

- aid or implement practices violating basic human rights or civil liberties. For the avoidance of doubt, you may not use the Services to assist in the creation of databases of identifying information for any government to abrogate any human rights, civil rights, or civil liberties of individuals on the basis of race, gender, gender identity, sexual orientation, religion, immigration status, or national origin;

- use the Services for warfighting, surveillance, and related activities;

- engage in any other activity deemed by Azavea to be in conflict with the spirit or intent of these Terms.

Case Studies

- Gray areas
- Background and context
- Decision
- Retrospective

Organizations are the sum of their people
and their activities

Defense Department

US Army Corp of Engineers

Civil water infrastructure

Office of Secretary of Defense

Economic impact of bases

US Marine Corps R&D Grant

National Geospatial Intelligence Agency (NGA)

GeoTrellis Support

Project A

OpenStreetMap tools

Boundaries for defense/intel work

- Clear civilian application
- Technology is open (open source)
- No deployment to classified environment
- No classified data
- No security clearances

Fracking

- Project A - no
- Project B - yes

Big Ag Co

Siting windmills and solar arrays

World Bank



DRIVER

Dashboard ▾

City/Province ▾

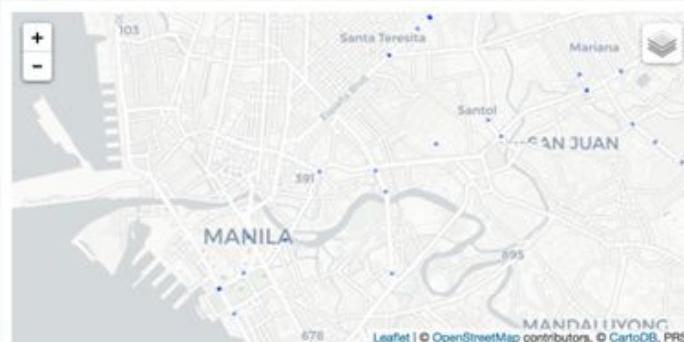
All ▾

systems+driver-ph@azavea.com ▾



Black Spots by Severity

Analyze & filter ➤



Incidents: Last Two Weeks

View all incidents ➤

6.9% of all traffic accidents involved jeepneys last week.



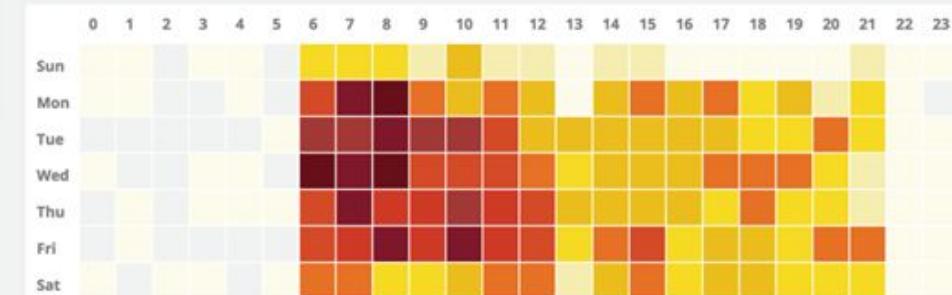
1138

Incidents

30 Days

90 Days

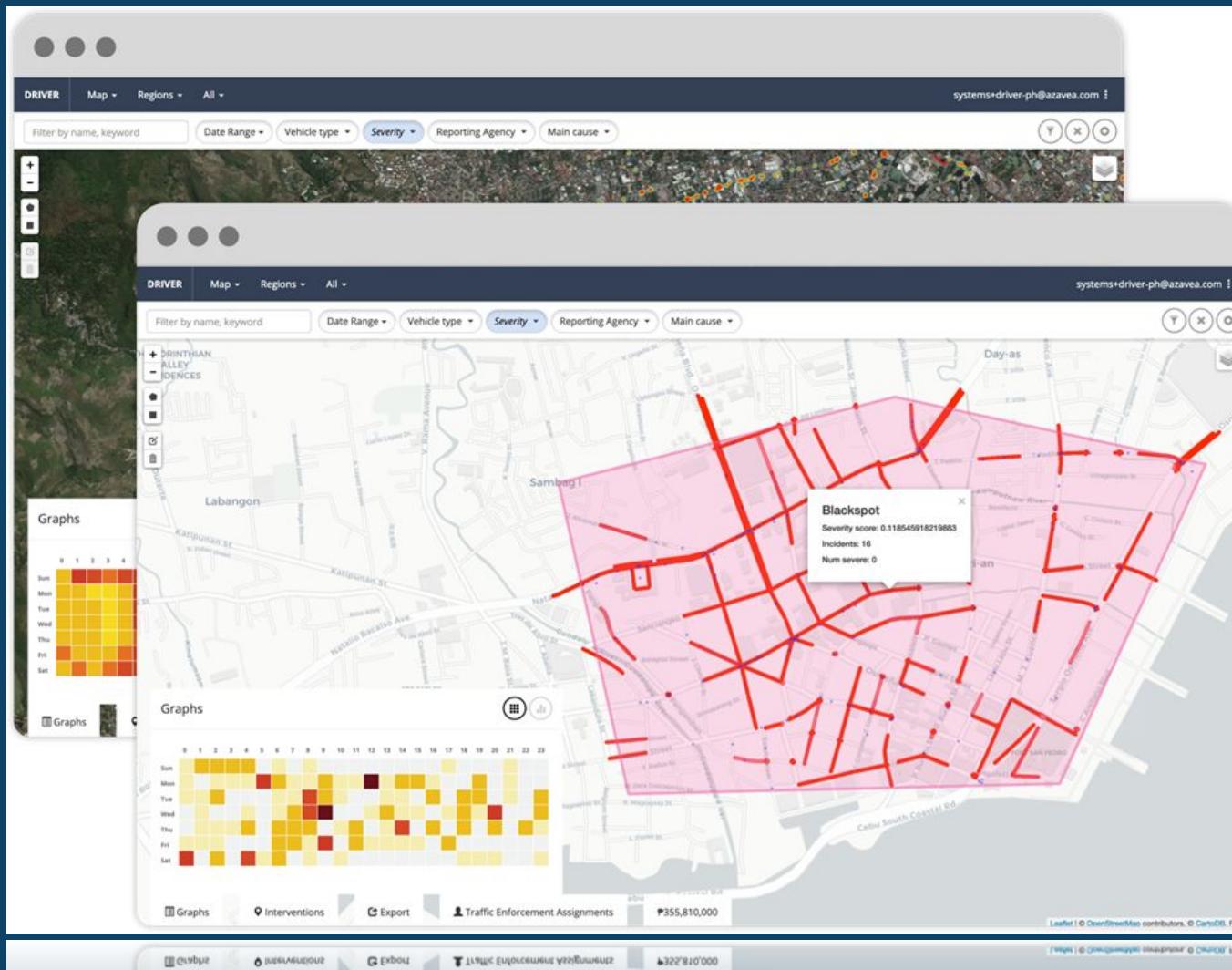
365 Days



Time of Day, Day of Week: Last 90 Days

Saved Filters

Property	Severity: property	View »
Severity: injury	Severity: injury	View »



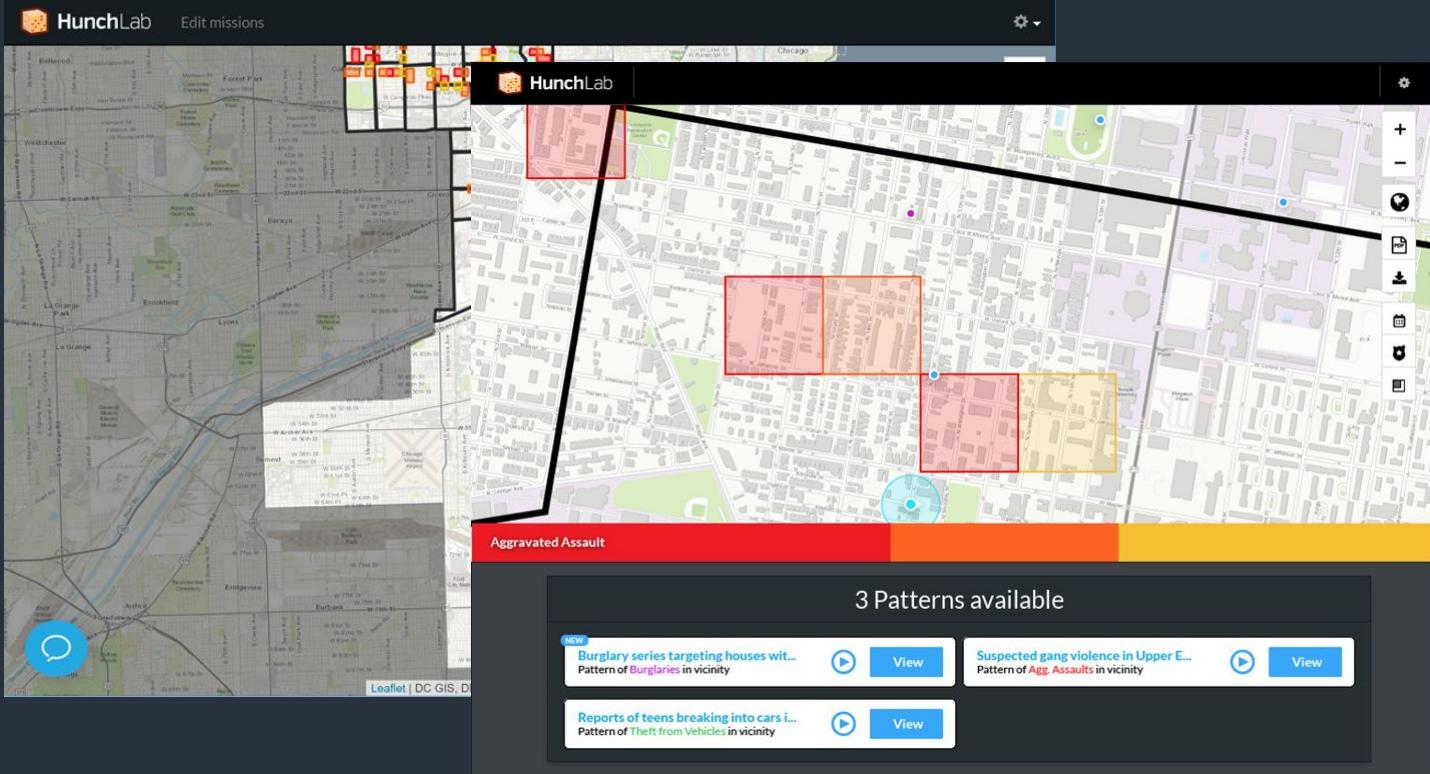
Road safety in Saudi Arabia

Cicero

NAACP
Benefits Data Trust
California Association of Nonprofits
Conservation Voters of PA
American Kidney Fund
Alzheimer's Association
American Gun Owners Alliance
Oakland Gun Club
National Network of Abortion Funds

HunchLab

HunchLab case study



Transparency & Mitigation

- Limited forecasts to places, rather than people
- Limited the data we used
- Used non-police data sources
- Filtered methods used for explainability and reproducibility
- Audit trail
- Shared methods, data, and source code w/ researchers and journalists
- Offered discounts to customers if they committed to community engagement
- Developed a Citizen's Guide to the product

POLICING THE FUTURE

In the aftermath of Ferguson, St. Louis cops embrace crime-predicting software

By Maurice Chammah, with additional reporting by Mark Hansen

Photography by Whitney Curtis

Just over a year after Michael Brown's death became a focal point for a national debate about policing and race, Ferguson and nearby St. Louis suburbs have returned to what looks, from the outside, like a kind of normalcy. Near the Canfield Green apartments, where Brown was shot by police officer Darren Wilson, a sign reading "Hands Up Don't Shoot" and a mountain of teddy bears have been cleared away. The McDonald's on West Florissant Avenue, where protesters nursed rubber bullet wounds and escaped tear gas, is now just another McDonald's.

Half a mile down the road in the city of Jennings, between the China King restaurant and a Cricket cell phone outlet, sits an empty room that the St. Louis County Police Department keeps as a substation. During the protests, it was a war room, where law enforcement leaders planned their responses to the chaos outside.

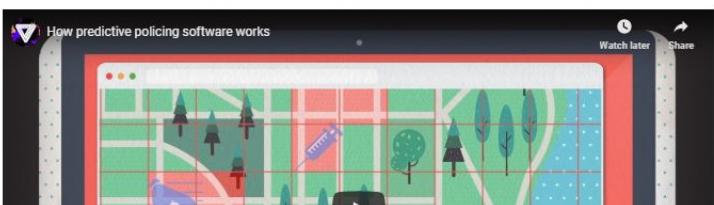
One day last December, a few Jennings police officers flicked on the substation's fluorescent lights and gathered around a big table to eat sandwiches. The conversation drifted between the afternoon shift's mundane roll of stops, searches, and arrests, and the day's main excitement: the officers were trying out a new software program called HunchLab, which crunches vast amounts of data to help predict where crime will happen next.

The conversation also turned to the grand anxieties of post-Ferguson policing. "Nobody wants to be the next Darren Wilson," Officer Trevor Voss told me. They didn't personally know Wilson. Police jurisdiction in St. Louis is notoriously labyrinthine and includes dozens of small, local municipal agencies like the Ferguson Police Department, where Wilson worked — munis, the officers call them — and the St. Louis County Police Department, which patrols areas not covered by the munis and helps with "resource intense events," like the protests in Ferguson. The munis have been the targets of severe criticism; in the aftermath of 2014's protests, Ferguson police **were accused** by the federal Department of Justice of being racially discriminatory and poorly trained, more concerned with handing out tickets to fund municipal coffers than with public safety.

The officers in Jennings work for the St. Louis County Police Department; in 2014, their colleagues appeared on national TV, pointing sniper rifles at protesters from armored trucks. Since then, the agency has also been called out by the Justice Department for, among other things, its lack of engagement with the community.

The Marshall Project

This story was produced in partnership
with [The Marshall Project](#)



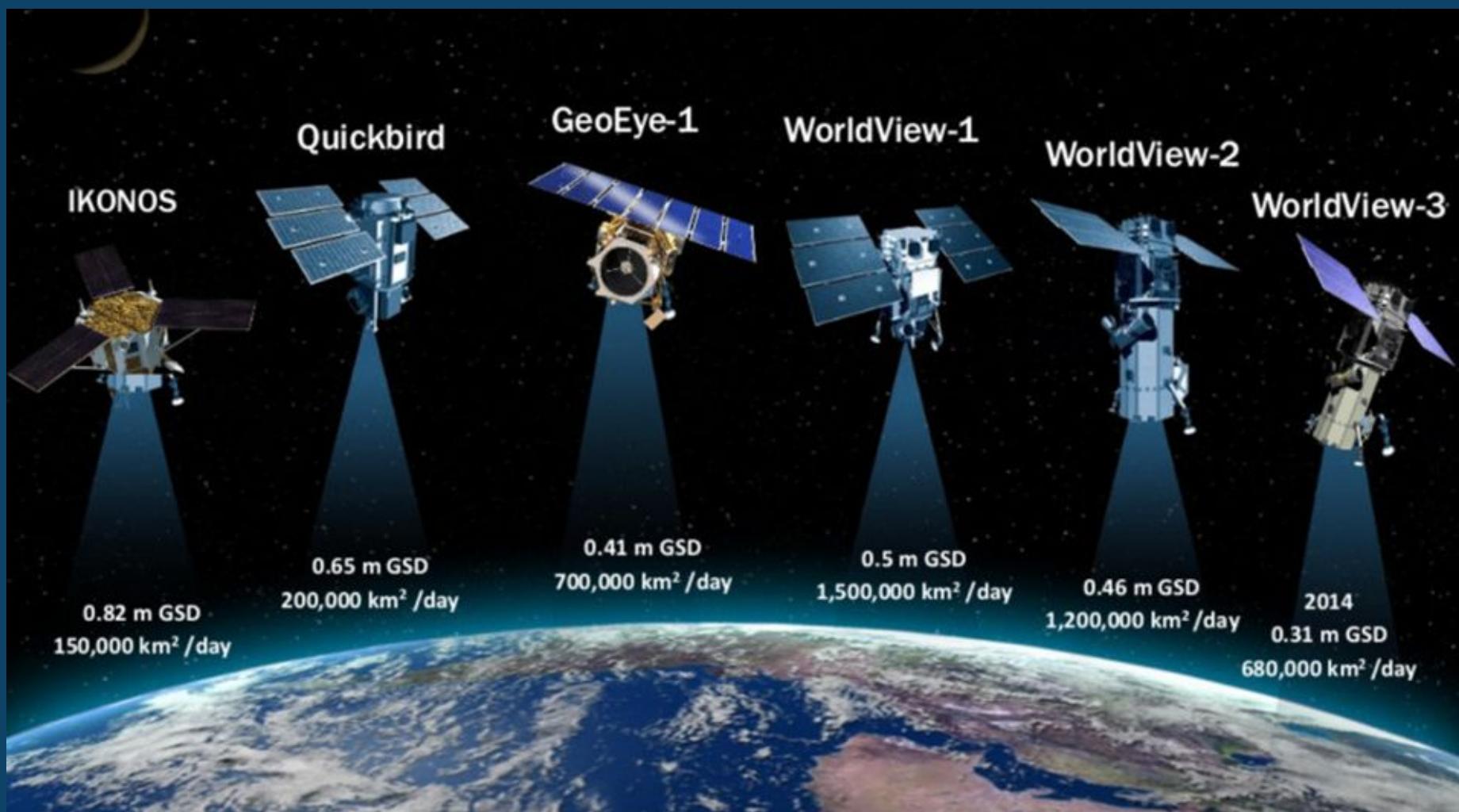
Oct 2018: we sold the product

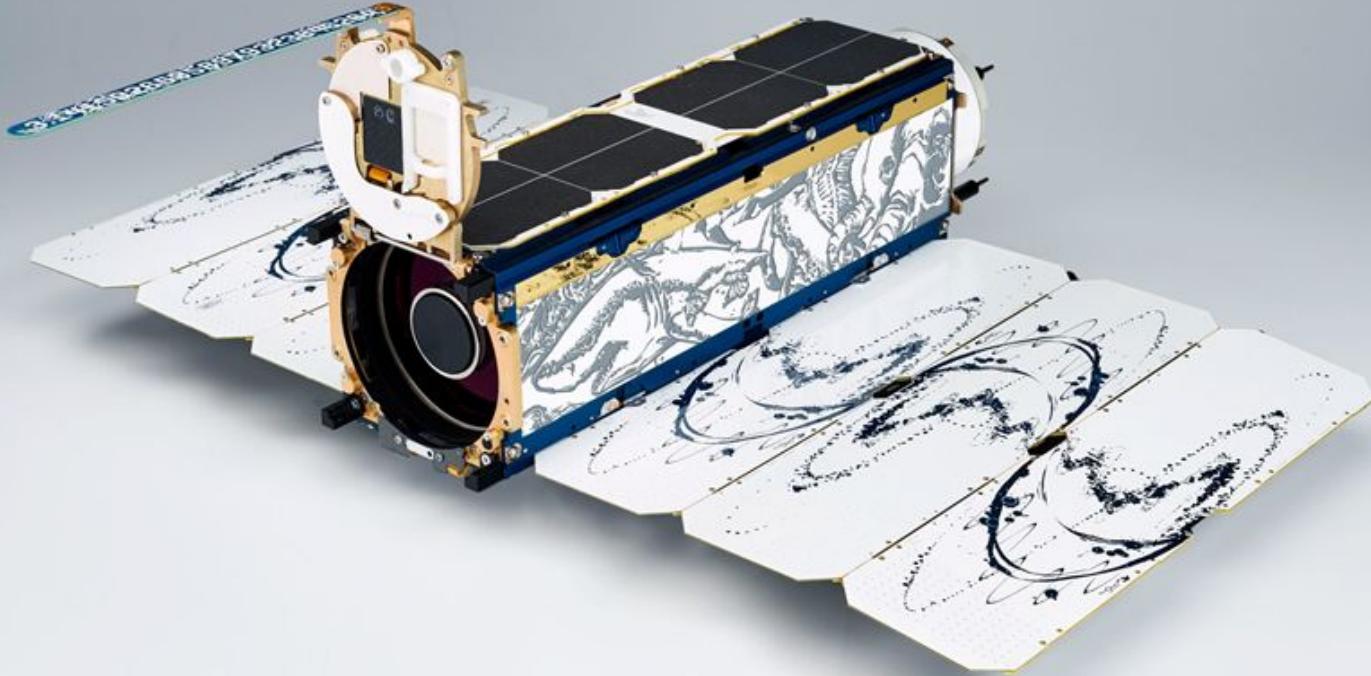
Modifying the Guidelines: Satellite and Drone Imagery and Energy

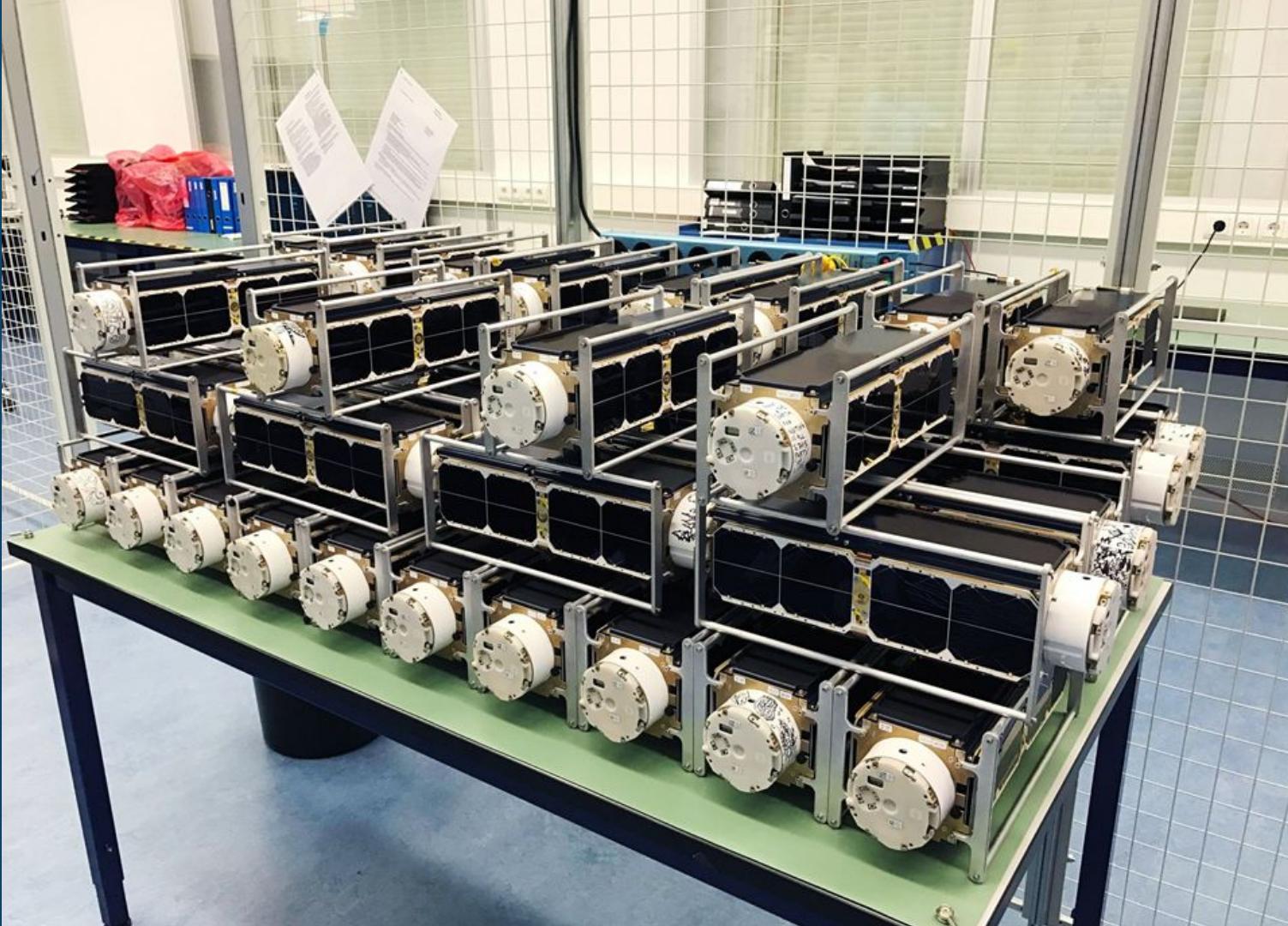
Data explosion



Miniaturization







Higher resolution and generating
avalanche of data

AI/ML with neural networks

Decline in Monopsony Power

Innovation causes basic changes to market structure

Azavea investments



Scene browser

Editor

Tool Catalog

Lab



My library

cbrown+demo

130 Results Found

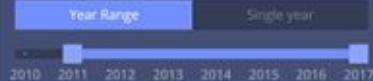
Filter

Filters

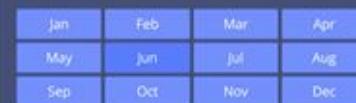
Close

Clear all filters

Year



Month



Day of Month



Cloud cover



Sun elevation



Sun azimuth



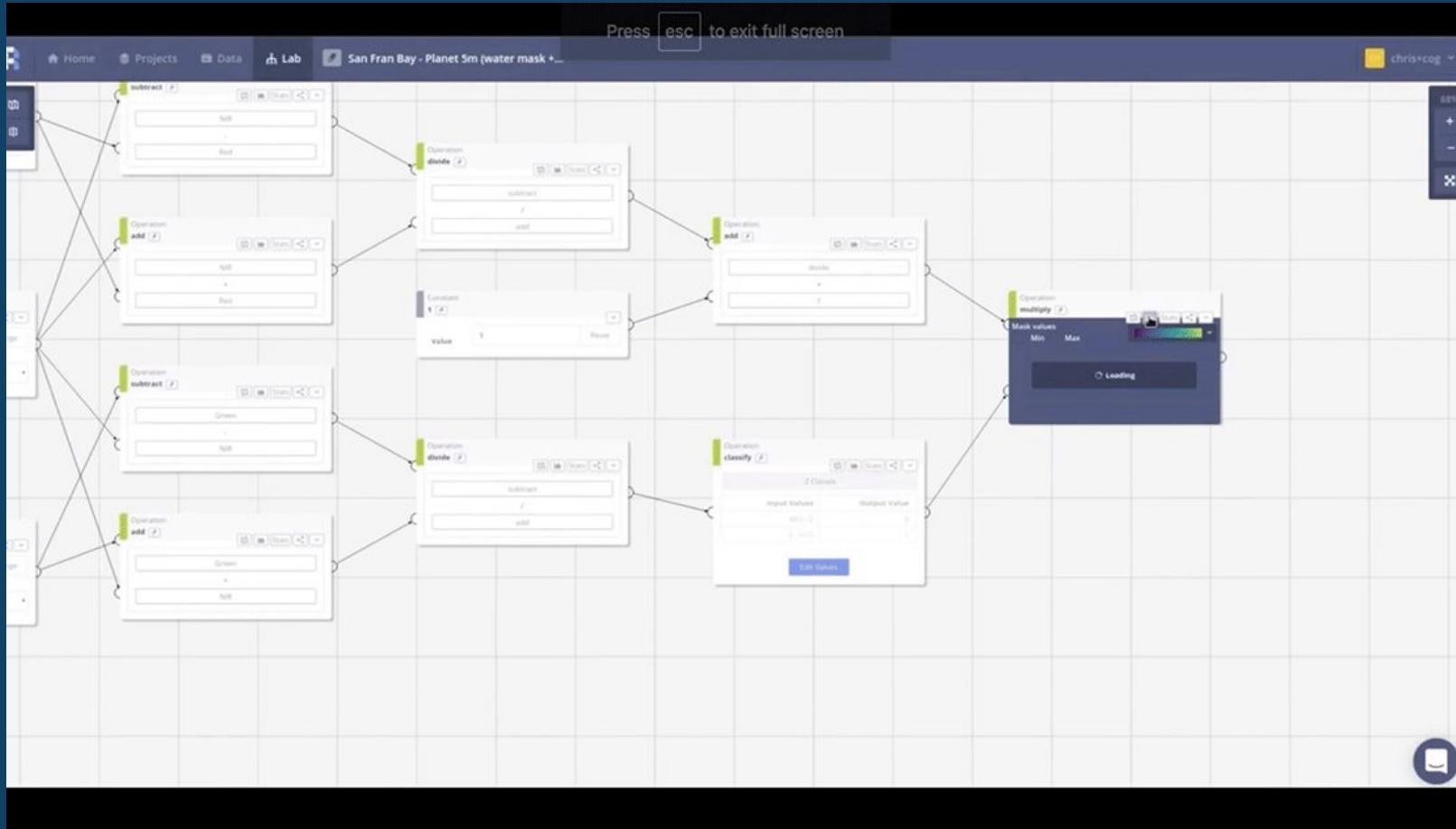
No more scenes to load

130 scenes selected



R15_C08_Tucson.tif

azavea





Projects



oakland - 2017-06-04



chris+feeds

Scenes

Color mode

Annotations

Exports

Share

Annotations

Hotkeys

Add notes and highlight
your imagery

Import

Export

You're currently in bulk create mode

Finish

Filter by label

All

Clear Annotations



Ship

Bulk Create



Ship

Bulk Create



Draw bulk annotation

Finish



Click and drag to draw rectangle.





An open source framework for deep learning
on satellite and aerial imagery.

[View our Github](#)

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Growing civilian applications



ANALYZE AND TRACK FOREST CHANGE



**CLICK A LAYER ON THE
MAP**

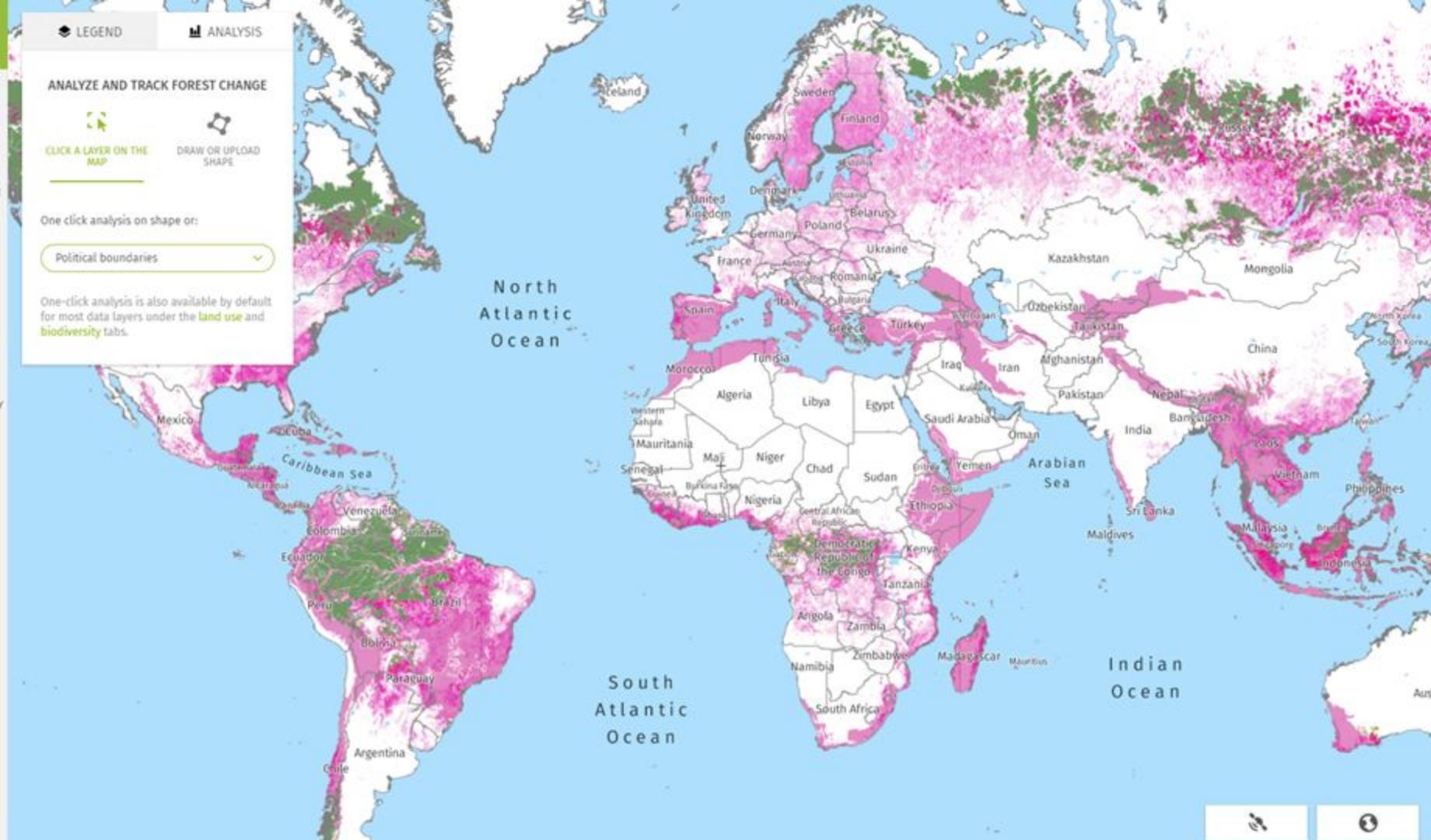


DRAW OR UPLOAD
SAMPLE

One click analysis on shape or:

Political boundaries

One-click analysis is also available by default for most data layers under the [land use](#) and [biodiversity](#) tabs.







Energy Industry

- Monitoring fracking wellheads
- Monitoring pipeline rights-of-way

More ad hoc decisions

New guideline:

We do not work to support expansion of fossil fuel extraction

- Privacy
- Satellite image of buildings don't have race, ethnicity, or gender
- Bias in training data - built environment
- Bias in satellite imagery sources

Azavea Project Selection Guidelines

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