CARTO

Unlock the Power of Spatial Analysis

Technology Report

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CRP558

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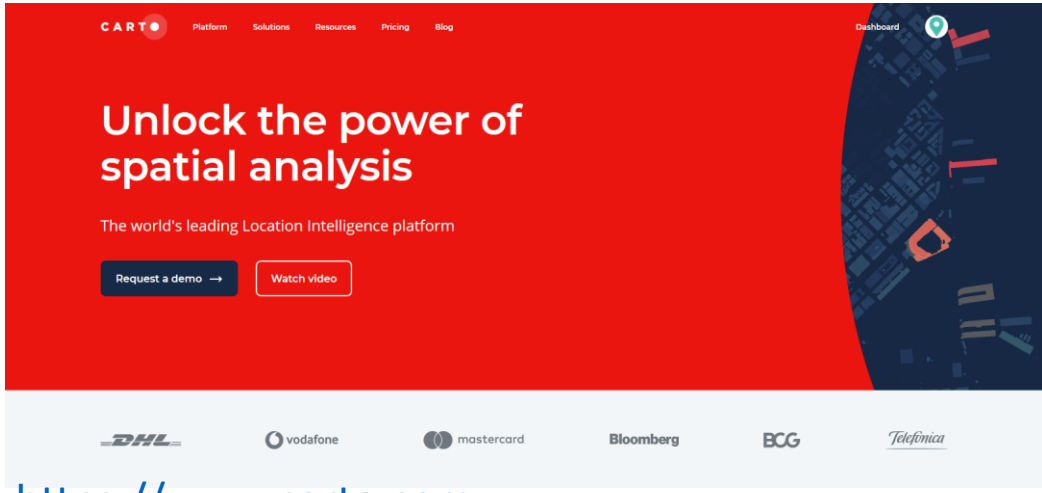
What is CARTO?

A location Intelligence platform

Turns location data into:

- More efficient delivery routes
- Better behavioral marketing
- Strategic store placements
- Much more!



https://www.carto.com

- What is CARTO
- Why and who is it for?
- What are the services advantages?
- Some solution created with CARTO
- Own CARTO project: Kenya irrigated parcels

Why? Who?

CARTO

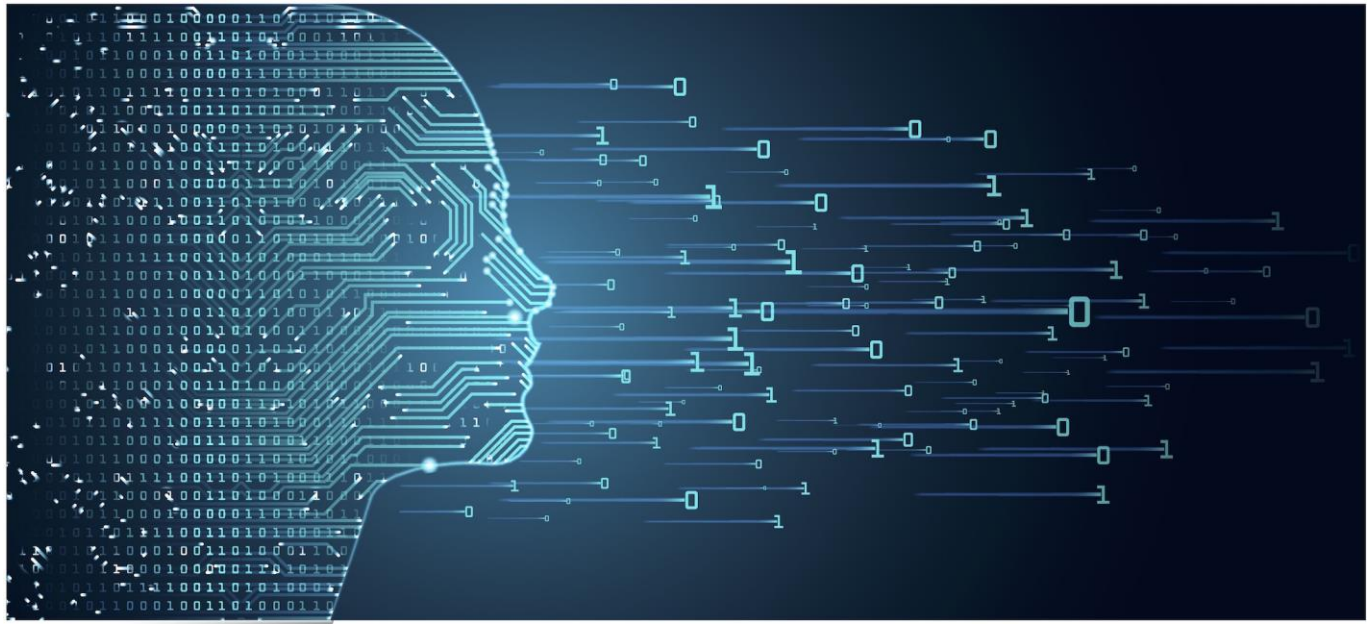
For:

- Data scientists
- Developers
- Businesspeople

To:

- Understand where and why things happen
- Optimize business processes
- Predict future outcomes in

5 steps:



https://bit.ly/2JlnWeh

What are the services advantages of CARTO?

Data scientists	Developers	Examples of industries
Straight geocode & visualization	Libraries, data APIs, geocoding, routing and isolines	Financial Services Cities & Government Real Estate Retail Transport & Logistics Utilities Healthcare & Pharma Telecommunications Etc.
Time saving collecting	Prototype apps, upload data and start!	
Own libraries, functions, workflows	Performance and interactivity	
Publish and share results	Scale your apps to millions of requests	

https://bit.ly/2Uqve6V

CARTO

Some real-world projects with CARTO

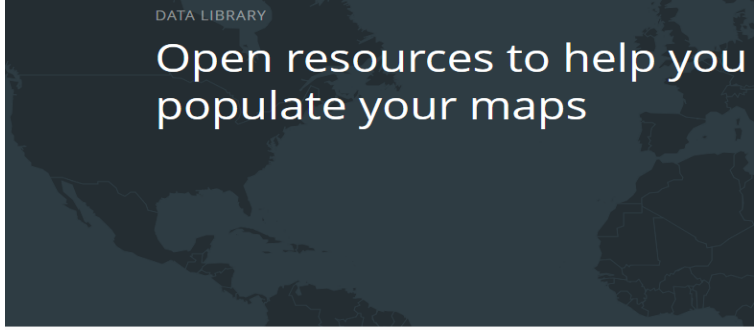
- **BUPA group:** catchment areas for their centers, customers center choice, geomarketing campaigns
- **DHL:** Territory Management for sales team
- **Harris County TX:** recovery and future disaster planning after Hurricane Harvey geomatrix.rilos.ru
- **BBVA:** visualize millions of location datasets on customer transactions and withdrawals
- **Utilities:** Location Intelligence
- **Telefónica:** Urbo Smart Cities to monitor traffic, air quality and waste management in near real-time
- **Telco**: leverage Location Intelligence to find new revenues
- **Greenpeace**
- **Site Planning for Food Trucks in NYC:** where to locate to maximize revenues.
- **JLL:** optimize office relocation planning and develop an intuitive customer dashboard
- **El Corte Inglés:** indoor mapping of their stores (geomatrix.rilos.ru)
- **Bloomberg:** power Bloomberg Maps inside terminals

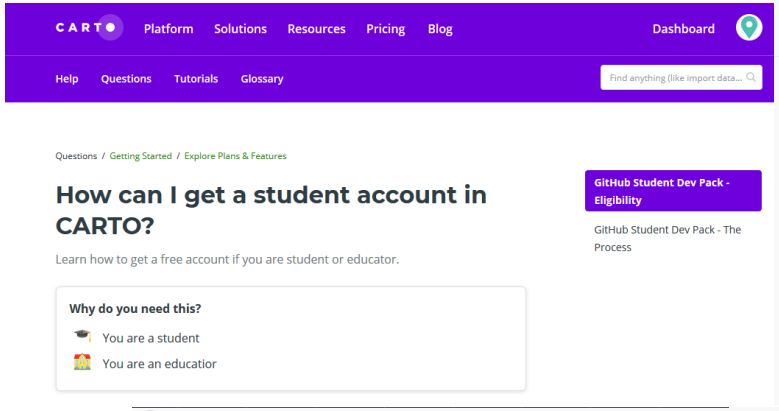
CARTO

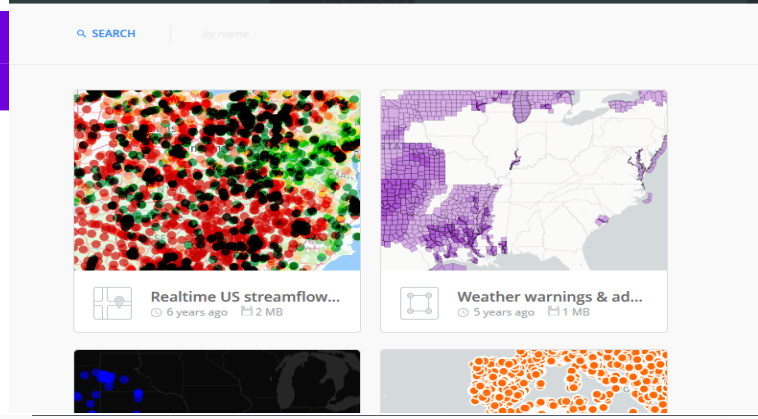
Own CARTO project: Kenya irrigated parcels Steps 1 and 2

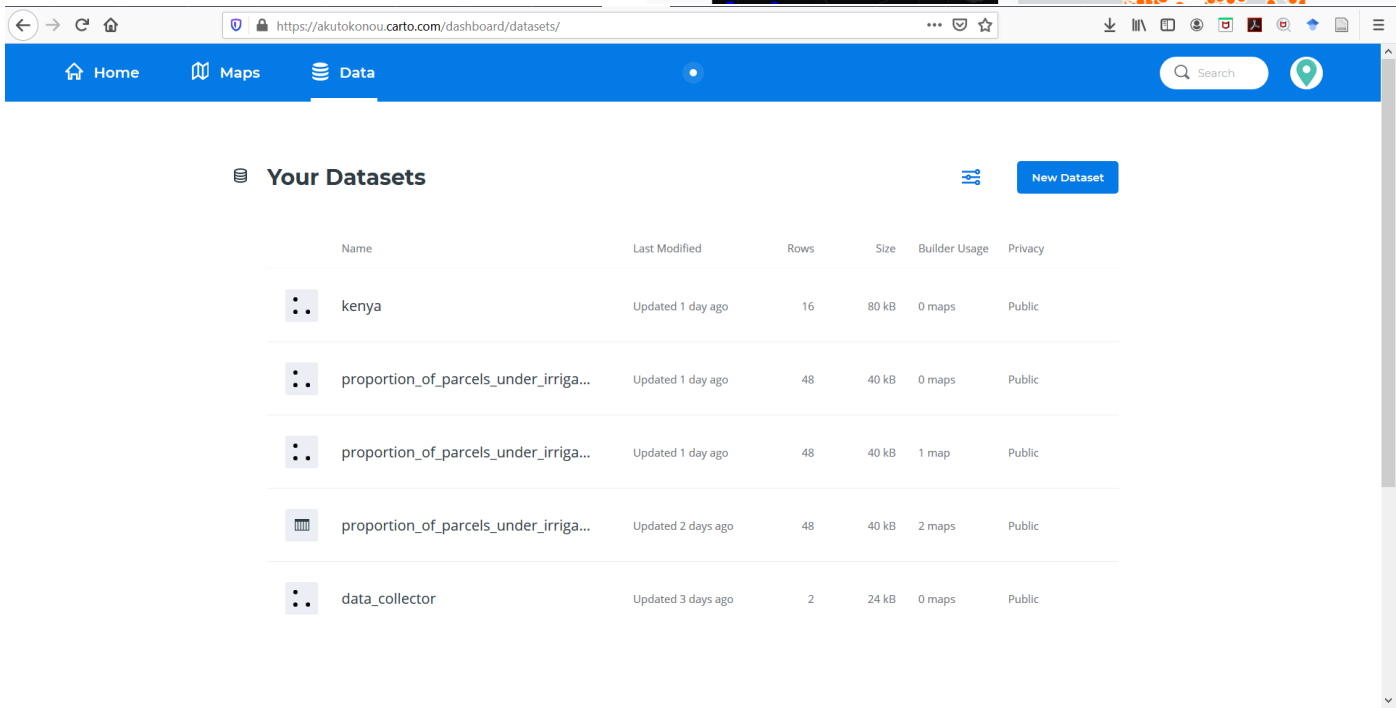
1. Created student account on Carto.com (it gives several advantages).

2. Got the CSV dataset from the website (Carto has also a data library on carto.com/data-library)





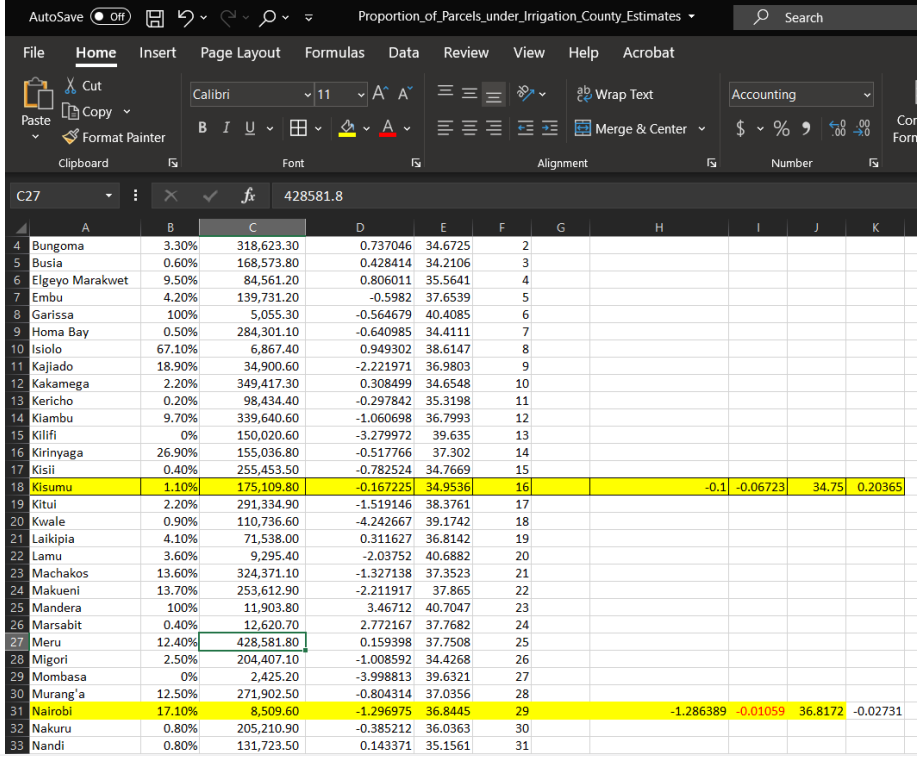




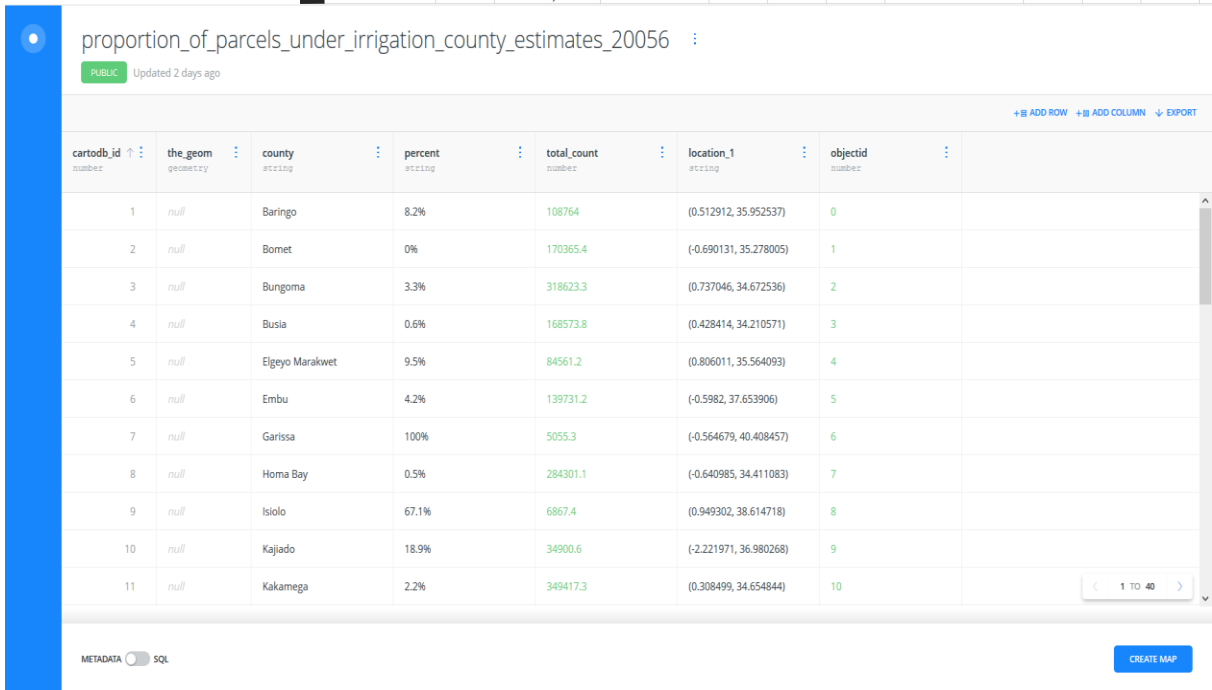
Own CARTO project: Kenya irrigated parcels Steps 3 and 4

3. Cleaned the data (important to have at least a Cities, geocode address, or Longitude & Latitude columns).

4. Went to Carto data visualization to upload data and create map (carto.com, → Dashboard → New dataset → Upload → Create Map)

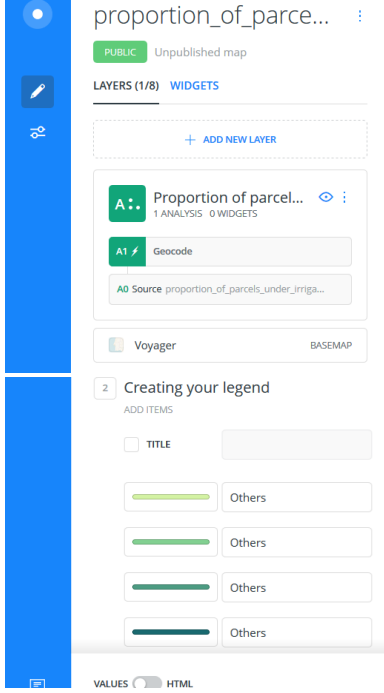


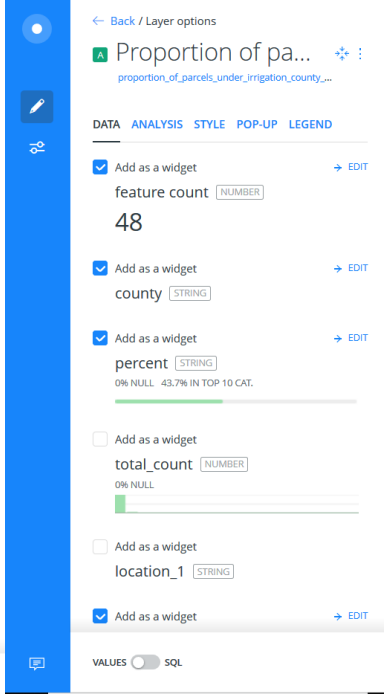
	A	B	C	D	E	F	G	H	I	J	K
4	Bungoma	3.30%	318,623.30	0.737046	34.6725	2					
5	Busia	0.60%	168,573.80	0.428414	34.2106	3					
6	Elgeyo Marakwet	9.50%	84,561.20	0.806011	35.5641	4					
7	Embu	4.20%	139,731.20	-0.5982	37.6539	5					
8	Garissa	100%	5,055.30	-0.564679	40.4085	6					
9	Homa Bay	0.50%	284,301.10	-0.640985	34.4111	7					
10	Isiolo	67.10%	6,867.40	0.949302	38.6147	8					
11	Kajiado	18.90%	34,900.60	-2.221971	36.9803	9					
12	Kakamega	2.20%	349,417.30	0.308499	34.6548	10					
13	Kericho	0.20%	98,434.40	-0.297842	35.3198	11					
14	Kiambu	9.70%	339,640.60	-1.060698	36.7993	12					
15	Kilifi	0%	150,020.60	-3.279972	39.635	13					
16	Kirinyaga	26.90%	155,036.80	-0.517766	37.302	14					
17	Kisii	0.40%	255,453.50	-0.782524	34.7669	15					
18	Kisumu	1.10%	175,109.80	-0.167225	34.9536	16		-0.1	-0.06723	34.75	0.20365
19	Kitui	2.20%	291,334.90	-1.519146	38.3761	17					
20	Kwale	0.90%	110,736.60	-4.242667	39.1742	18					
21	Laikipia	4.10%	71,538.00	0.311627	36.8142	19					
22	Lamu	3.60%	9,295.40	-2.03752	40.6882	20					
23	Machakos	13.60%	324,371.10	-1.327138	37.3523	21					
24	Makueni	13.70%	253,612.90	-2.211917	37.865	22					
25	Mandera	100%	11,903.80	3.46712	40.7047	23					
26	Marsabit	0.40%	12,620.70	2.772167	37.7682	24					
27	Meru	12.40%	428,581.80	0.159398	37.7508	25					
28	Migori	2.50%	204,407.10	-1.008592	34.4268	26					
29	Mombasa	0%	2,425.20	-3.998813	39.6321	27					
30	Murang'a	12.50%	271,902.50	-0.804314	37.0356	28					
31	Nairobi	17.10%	8,509.60	-1.296975	36.8445	29		-1.286389	-0.01059	36.8172	-0.02731
32	Nakuru	0.80%	205,210.90	-0.385212	36.0363	30					
33	Nandi	0.80%	131,723.50	0.143371	35.1561	31					

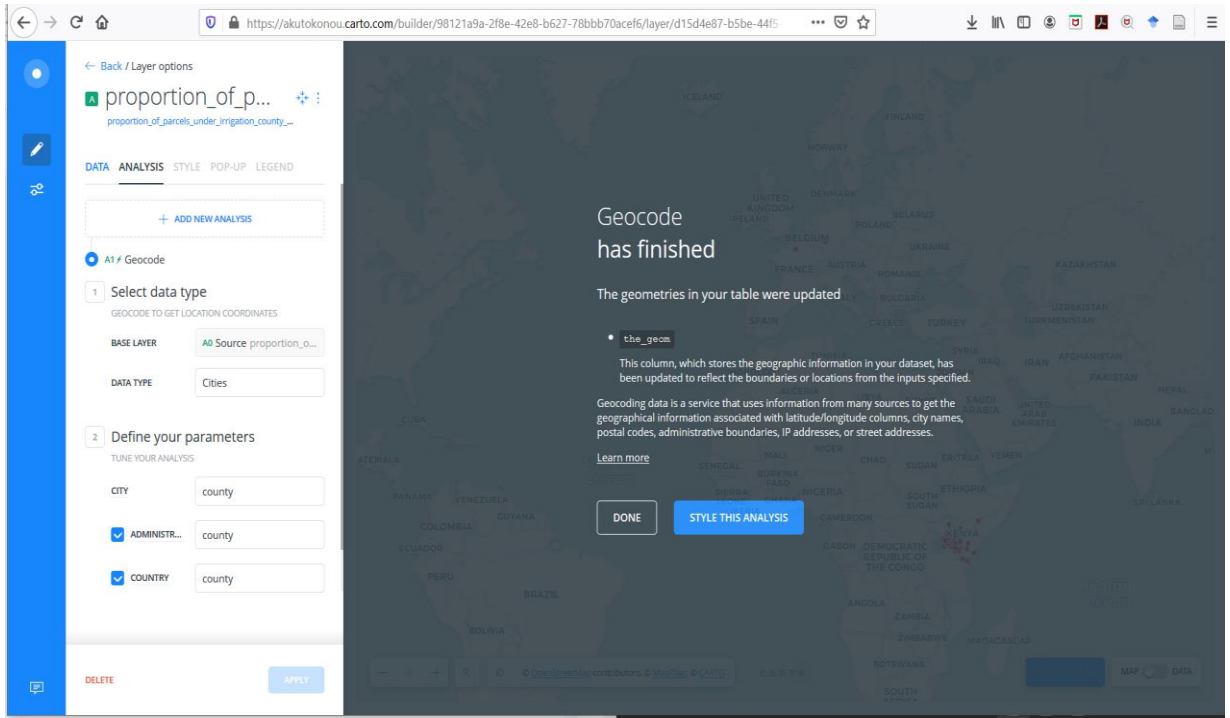


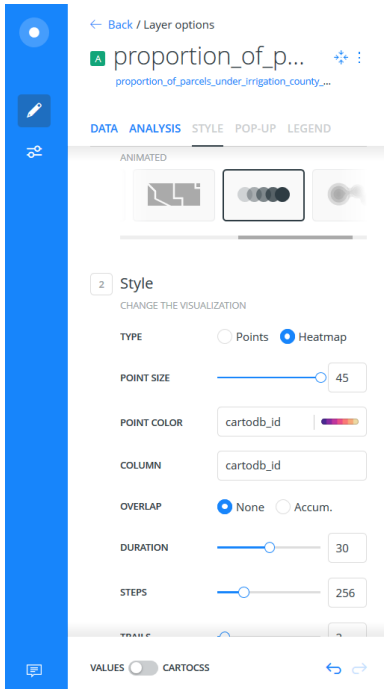
Own CARTO project: Kenya irrigated parcels Steps 5 and 6

5. Populated the map with data and looked to all the functionalities, and then had to click on Geocode because:
6. The location seemed wrong, so Carto asked me to fix it using 48 credits of my free 400 (one by city).



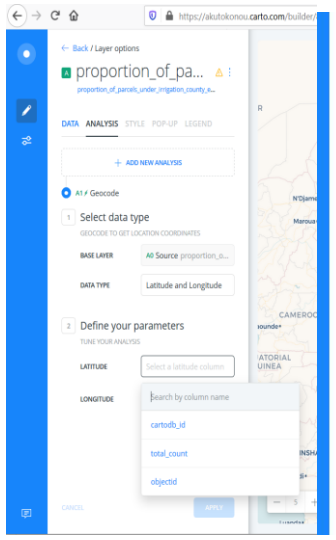


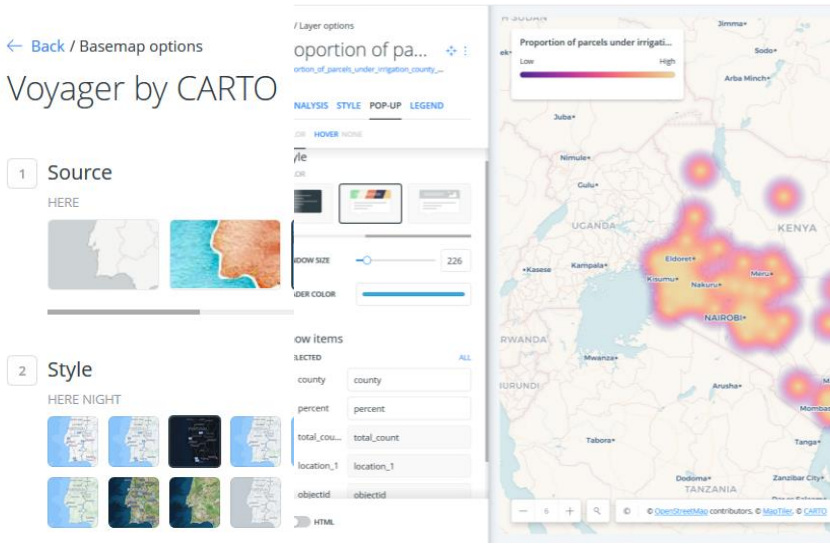




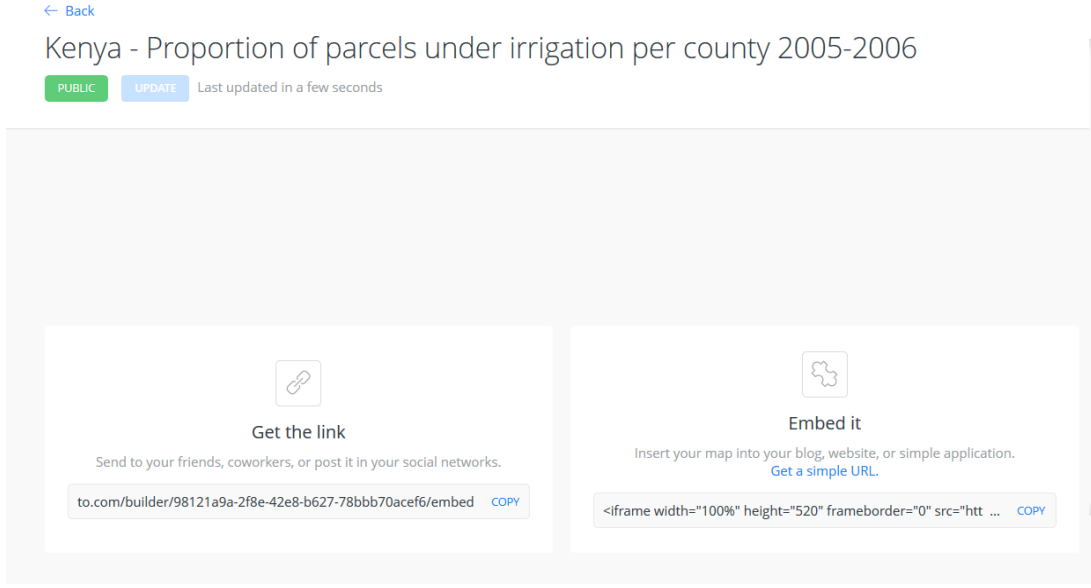
Own CARTO project: Kenya irrigated parcels Steps 7 and 8

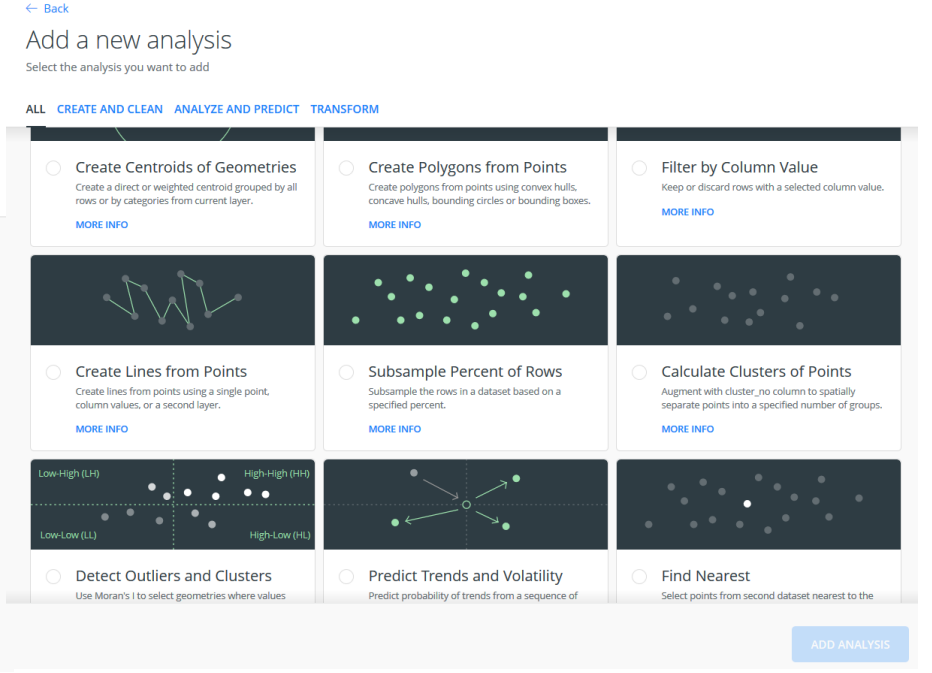
7. Edited the map: basemap, style (symbiology choosing a choropleth map, and an animated heat map). SQL and Data analysis are also possible. Many other possibilities out there!





8. Published with possibility of update the map later (even description, tags, etc. at Dashboard → Maps → More options → Edit metadata)





Overall evaluation of the tool

- In general, Carto offers a very informative, simple website with a beautiful interface.
- At first glance, I had the impression that this is only reserved for corporates, but by searching I understood. better and I realized that it is easy to use.
- Possibility of student account is a great opportunity for us.
- What I wanted to be able to have in addition to the functionality of CARTO that we already have with other tools like ArcGIS online, is the possibility of creating a participatory data collection platform. I found a tool to do it, but it is a bit complicated and it took so long that I had to drop it along the way, otherwise it was the project I wanted to do at the start. Here is a link to access a tutorial, though, for those who would like to try: http://duspviz.mit.edu/web-map-workshop/cartodb-data-collection/
- Though, what I like as a nice plus is the animated symbology.
- Easy to embed in a code, with the html code provided after publishing.
- Link to my maps: https://akutokonou.github.io/CRP558/techreport/