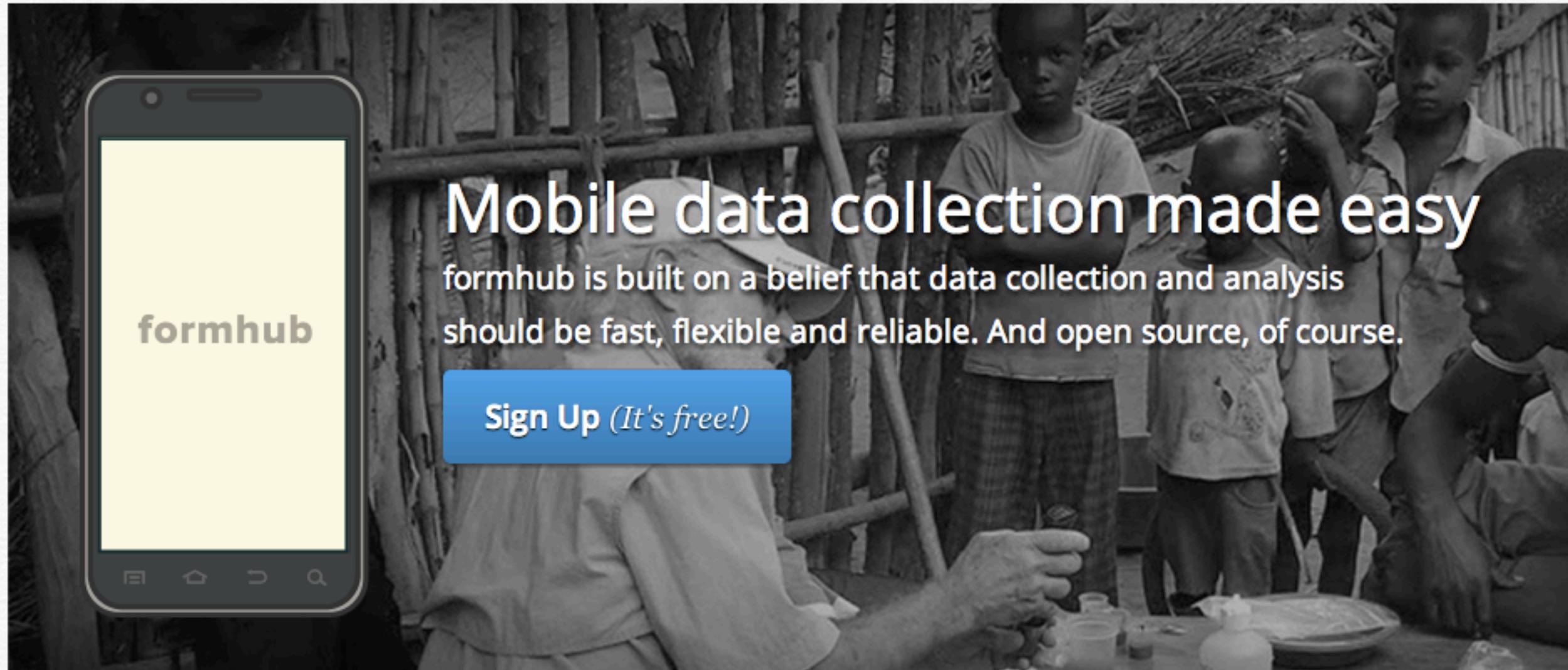


Modi Research Group

Columbia University
NYC and Nairobi Labs



Mobile data collection made easy

formhub is built on a belief that data collection and analysis should be fast, flexible and reliable. And open source, of course.

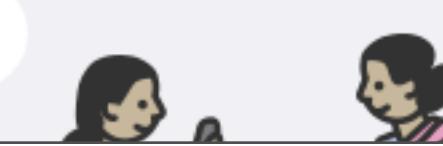
[Sign Up \(It's free!\)](#)

How it Works

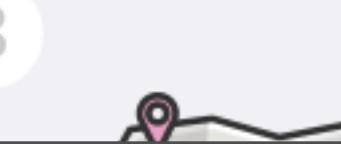
1



2



3



Design



Author surveys using Excel (XLSForms) which formhub automatically converts for friendly mobile and web based data collection.

To learn how to author XLSForms please visit:

<http://formhub.org/syntax>

ftc_survey.xls

Home Layout Tables Charts SmartArt Formulas Data Review

Font Alignment Number Format Cells Themes

Paste Fill Arial 10 A A Wrap Text General Conditional Formatting Styles Insert Delete Format Themes Aa

C59 fx How long is the average walk in minutes to the nearest all weather road from this FTC

	B	C	D	E	
1	name	label			bind:relevant
2	ftc_gps	PLEASE RECORD THE GPS COORDINATES			
3	ftc_int_1	Section: Interview Information			
4	ftc_int_1.001	PLEASE ENTER YOUR NAME			
5	ftc_int_1.002	PLEASE ENTER YOUR TEAM NUMBER			
6	ftc_int_1.003	PLEASE ENTER THE INTERVIEWEE'S FIRST NAME			
7	ftc_int_1.004	PLEASE ENTER THE INTERVIEWEE'S FATHER'S NAME			
8	ftc_int_1.005	PLEASE ENTER THE INTERVIEWEE'S POSITION TITLE			
9	ftc_int_1.006	PLEASE ENTER THE INTERVIEWEE'S MOBILE NUMBER			
10	ftc_loc_2.000	Section: Location Information			
11	ftc_loc_2.001	WHAT REGION IS THIS FTC LOCATED IN			
12	ftc_loc_2.002	WHAT ZONE IS THIS FTC LOCATED IN			
13	ftc_loc_2.003	WHAT WOREDA IS THIS FTC LOCATED IN			
14	ftc_loc_2.004	WHAT IS THIS FTC'S NAME			
15	ftc_gov_3	Section: Governance			
16	ftc_gov_3.001	IS THE INTERVIEWEE THE KEBELE CHAIRPERSON			
17	ftc_gov_3.002	What is the kebele chairperson's first name			\${ftc_gov_3.001}='
18	ftc_gov_3.003	What is the kebele chairperson's father's name			\${ftc_gov_3.001}='
19	ftc_gov_3.004	What is his/her mobile number			\${ftc_gov_3.001}='
20	ftc_gov_3.005	Does this FTC have a management committee (MC)			\${ftc_gov_3.005}='
21	ftc_gov_3.006	Which members belong to this management committee (MC)			\${ftc_gov_3.005}='
22	ftc_gov_3.007	How many farmers belong to your management committee (MC)			\${ftc_gov_3.005}='
23	ftc_gov_3.008	How many female farmers belong to your management committee (MC)			\${ftc_gov_3.005}='
24	ftc_gov_3.009	How many DAs belong to your management committee (MC)			\${ftc_gov_3.005}='
25	ftc_gov_3.01	How many female DAs belong to your management committee (MC)			\${ftc_gov_3.005}='
26	ftc_gov_3.011	How many kebele cabinet members belong to your management committee (MC)			\${ftc_gov_3.005}='
27	ftc_gov_3.012	How many female kebele cabinet members belong to your management committee (MC)			\${ftc_gov_3.005}='
28	ftc_gov_3.013	How are farmers involved in the decision-making process in this management committee (MC)			\${ftc_gov_3.005}='
29	ftc_gov_3.014	How many DAs does this FTC have			
30	ftc_gov_loop	DA INFORMATION			
31	ftc_gov_3.015	What type of DA is this			
32	ftc_gov_3.016	What is his/her gender			
33	ftc_gov_3.017	What is his/her education level			
34	ftc_gov_3.018	What did he/she receive his/her degree in			
35	ftc_gov_3.019	How many years of extension experience does he/she have			
36	ftc_gov_3.020	How many years has he/she been working at this FTC			

Collect

2



Gather data via a smart phone using Open Data Kit (ODK) Collect or via built in web forms

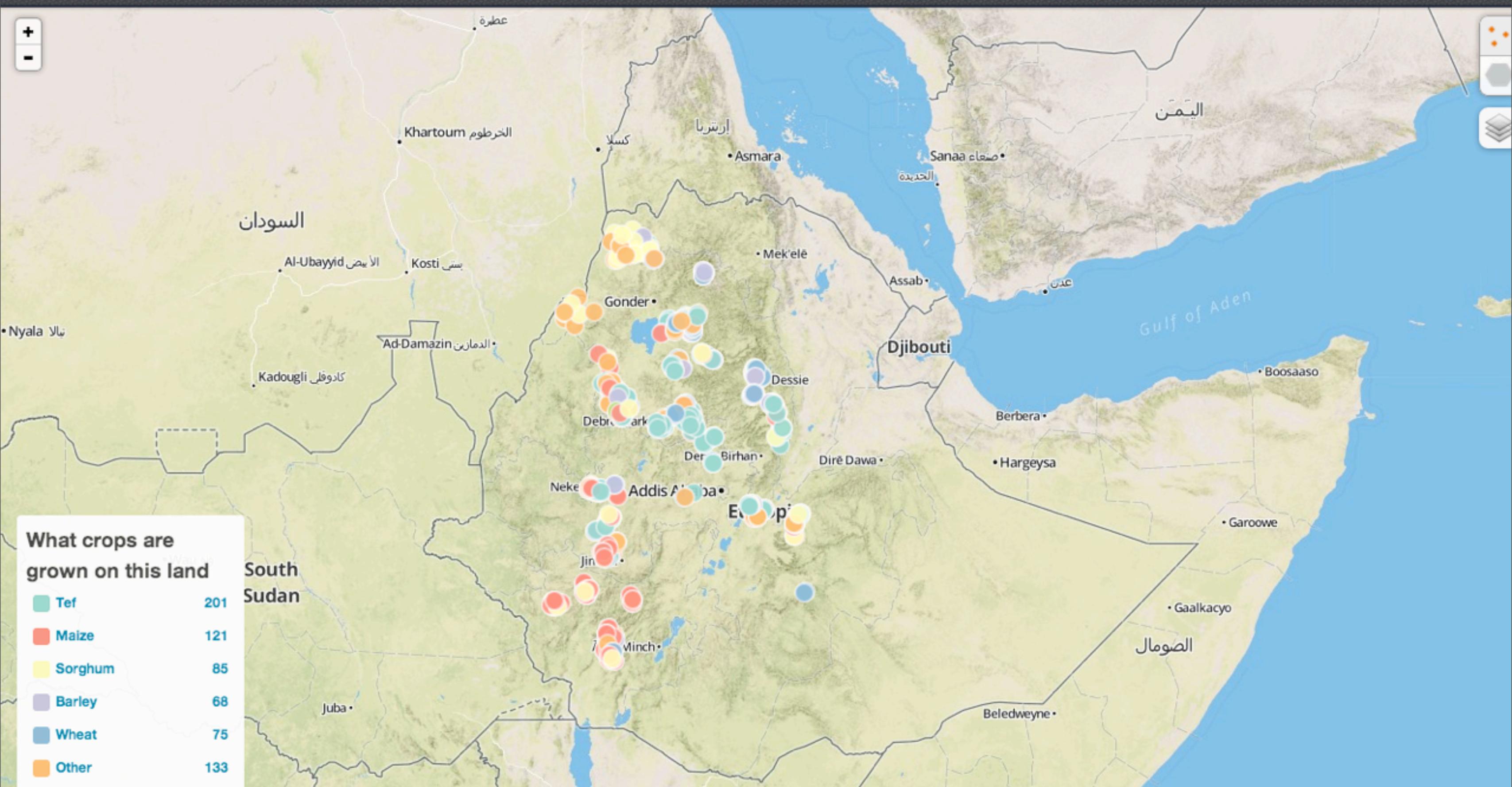
Manage all your collected data securely in one spot with your formhub dashboard.

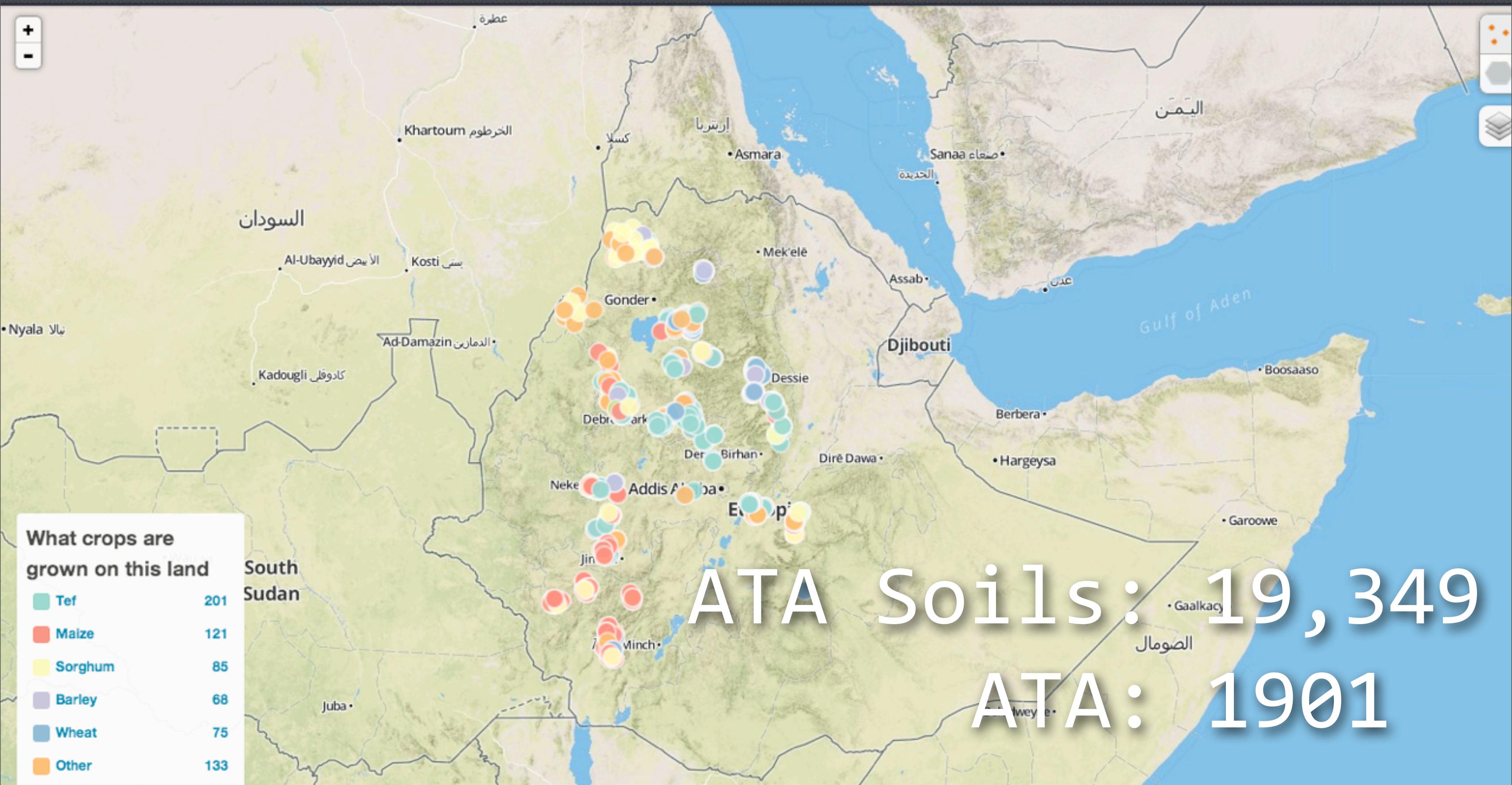
Analyze

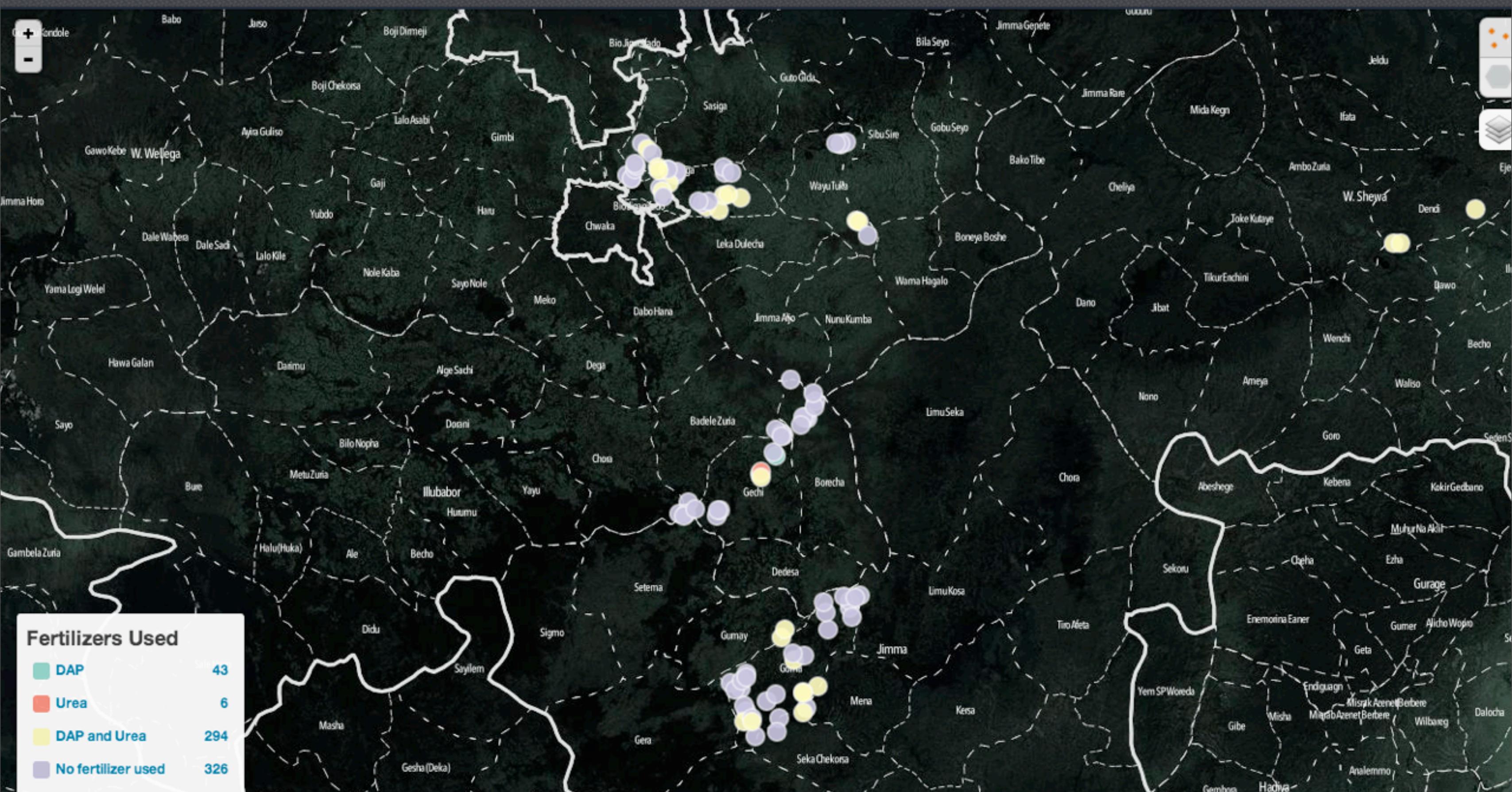
3



Visualize and share your data as it's collected via online-maps, photo galleries, or export in CSV or XLS for more advanced analysis.

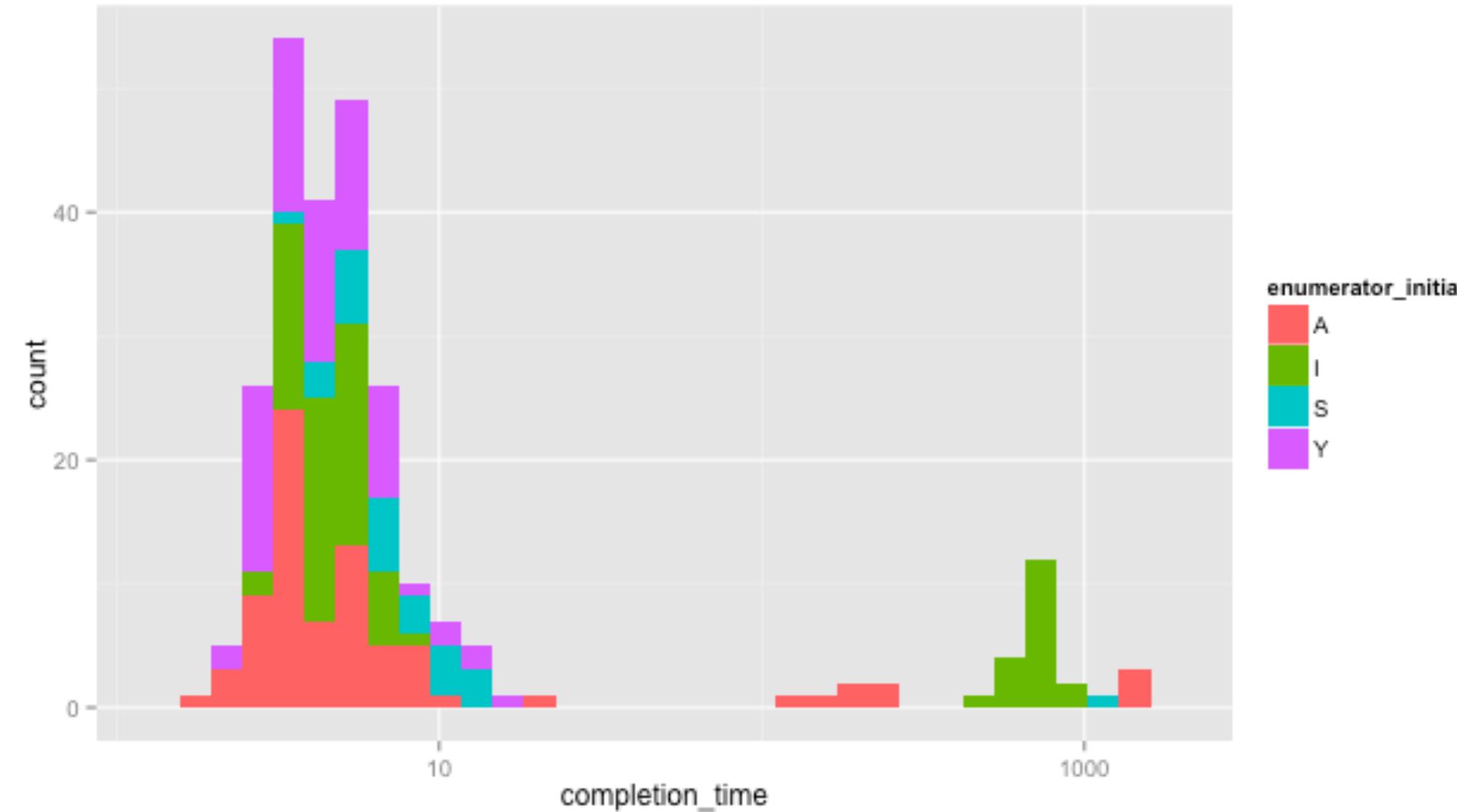






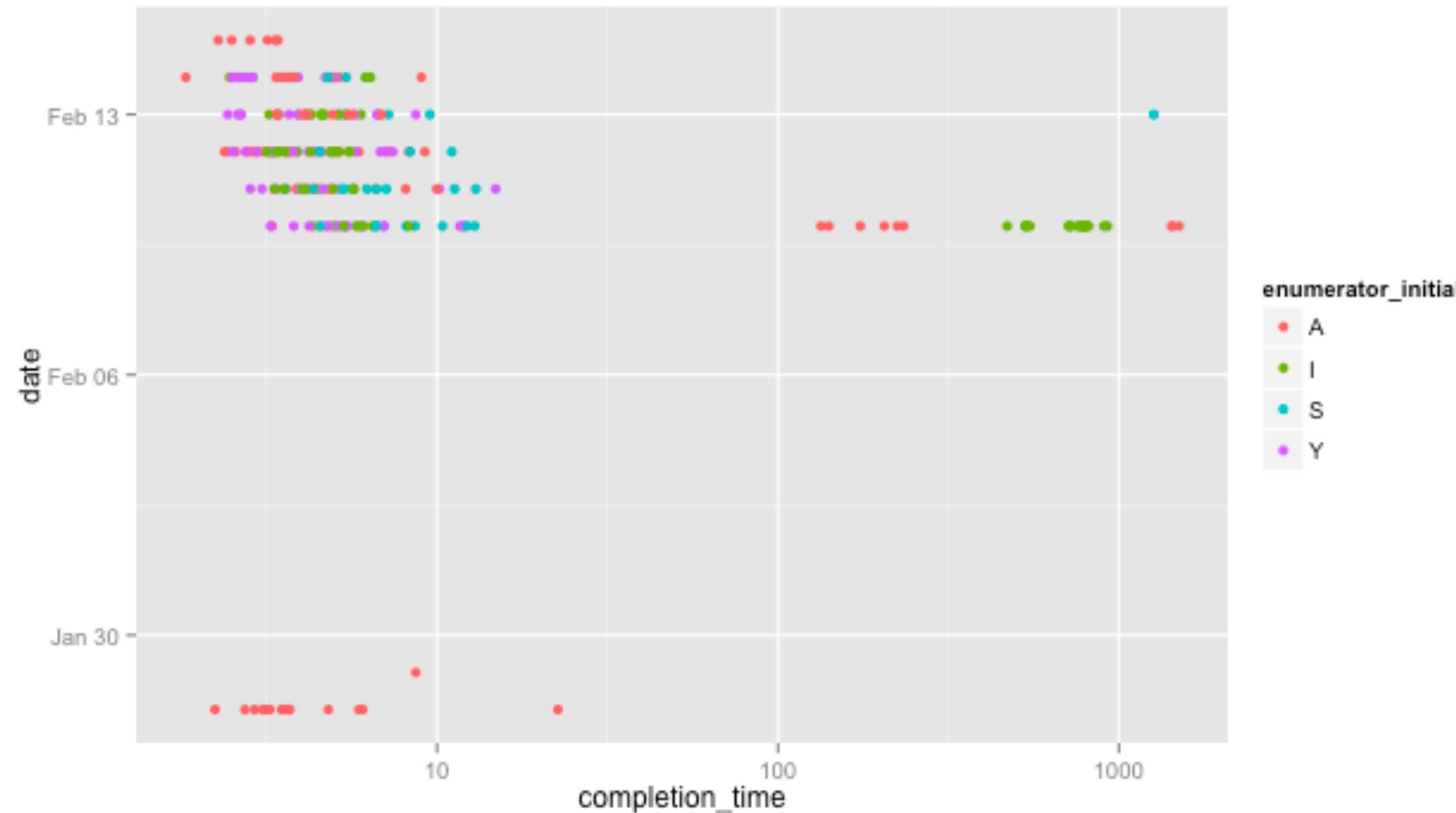
formhub.R

How long did survey authoring take?



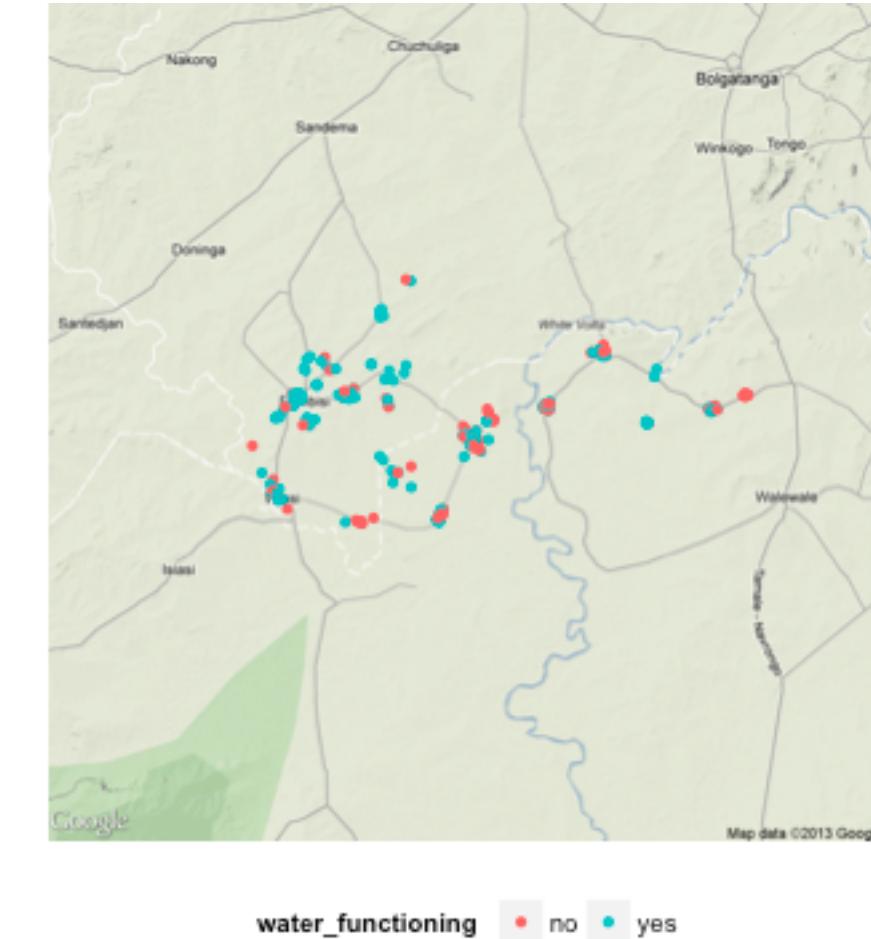
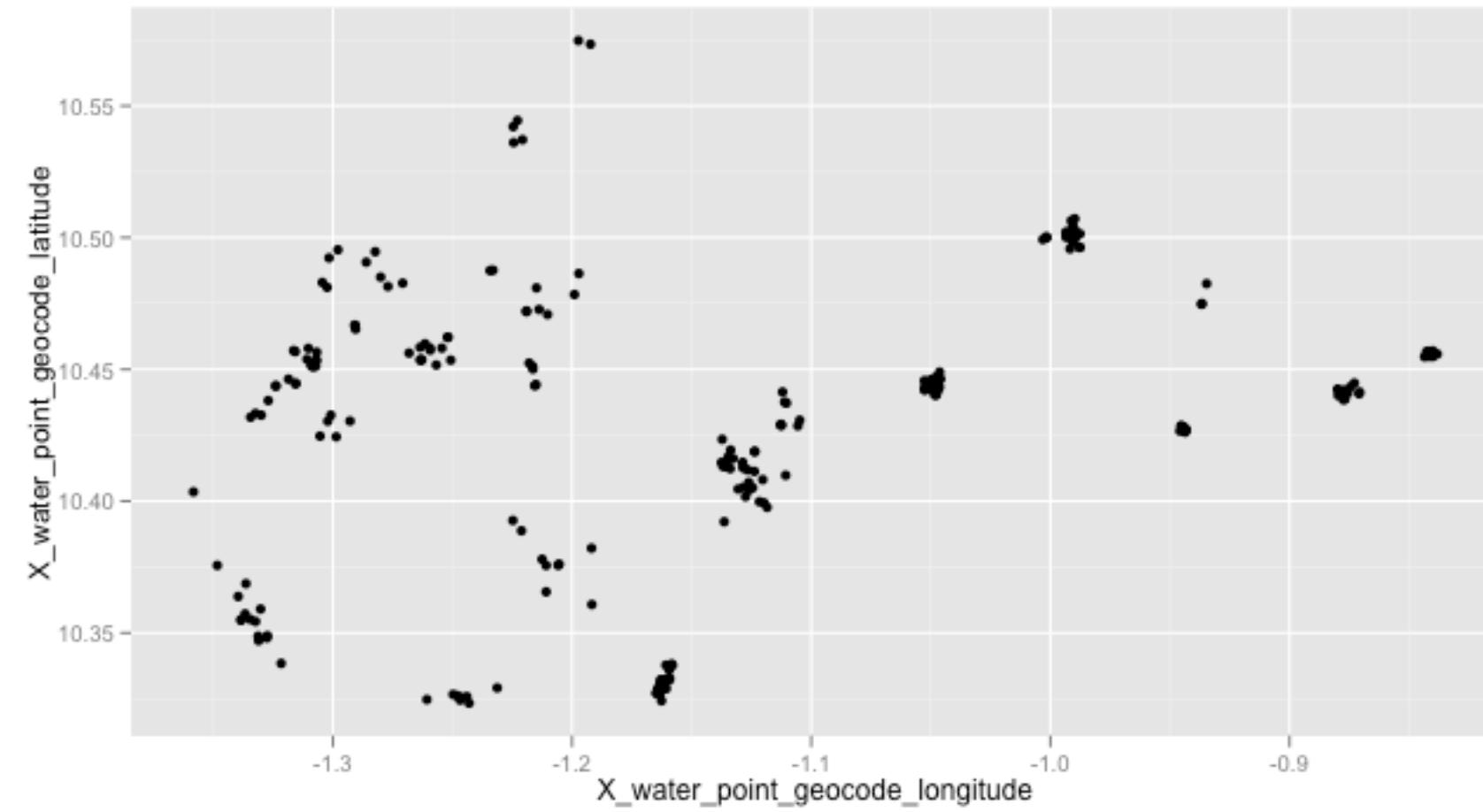
```
qplot(data = some_data, x = completion_time, fill = enumerator_initial) + scale_x_log10()
```

How long did survey authoring take?

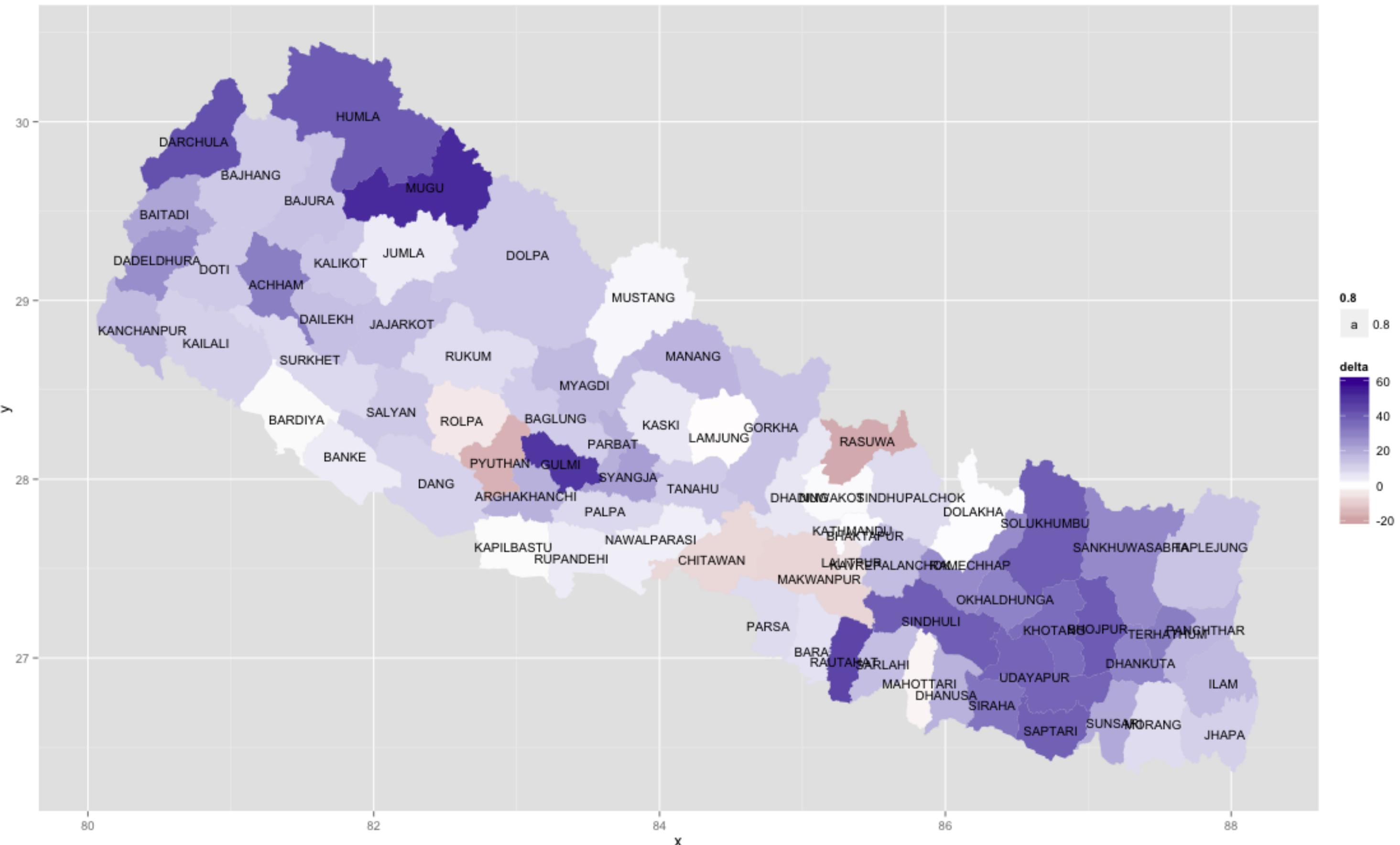


```
# note: fill, which applies for histograms, is now color, for a point-plot
qplot(data = some_data, x = completion_time, color = enumerator_initial, y = date) +
  scale_x_log10()
```

Spatial Analysis in R



```
# note: fill, which applies for histograms, is now color, for a point-plot
qplot(data = some_data, x = completion_time, color = enumerator_initial, y = date) +
  scale_x_log10()
```



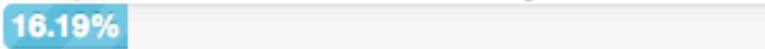
Logistics

Progress Overview

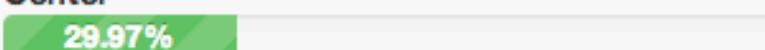
Samples Scanned at Point of Collection


21096

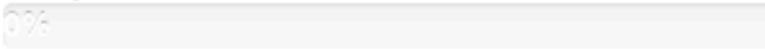
Samples Received at a Processing Center


16.19%
3415/21096

Top/Sub Samples Shipped from Processing Center


29.97%
321/1071

Samples Sent To Archive.


0/59

Find a Sample

or

Change Missing Trigger

LATEST EVENTS

[3612.1.2.61.sub_qr](#)

Collected 0 Jan. 1, 2013, 5:21 a.m.

[3612.1.2.61.qr_0_20](#)

Collected 0 Jan. 1, 2013, 5:21 a.m.

[3612.1.2.61.qr_20_40](#)

Collected 0 Jan. 1, 2013, 5:21 a.m.

[3612.1.2.61.top_qr](#)

Collected 0 Jan. 1, 2013, 5:21 a.m.

[3612.1.2.62.sub_qr](#)

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[3612.1.2.62.qr_20_40](#)

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[3612.1.2.73.top_qr](#)

Collected 0 Jan. 1, 2013, 5:07 a.m.

NB OF SUBMISSIONS: 22647

NB OF PLOTS: 100

PROCESSING CENTERS

None / 54

Dessie / 0

Nekempte / 46

Bahir Dar / 909

Mekelle / 0

NSTC P.C / 736

Awassa / 1616

Jimma / 40

NSTC LAB

NSTC Lab

CONFLUENCE POINTS

0

3

39

3098

3509

3523

3608

3609

3610

3612

3613

3707

3708

3710

3711

3712

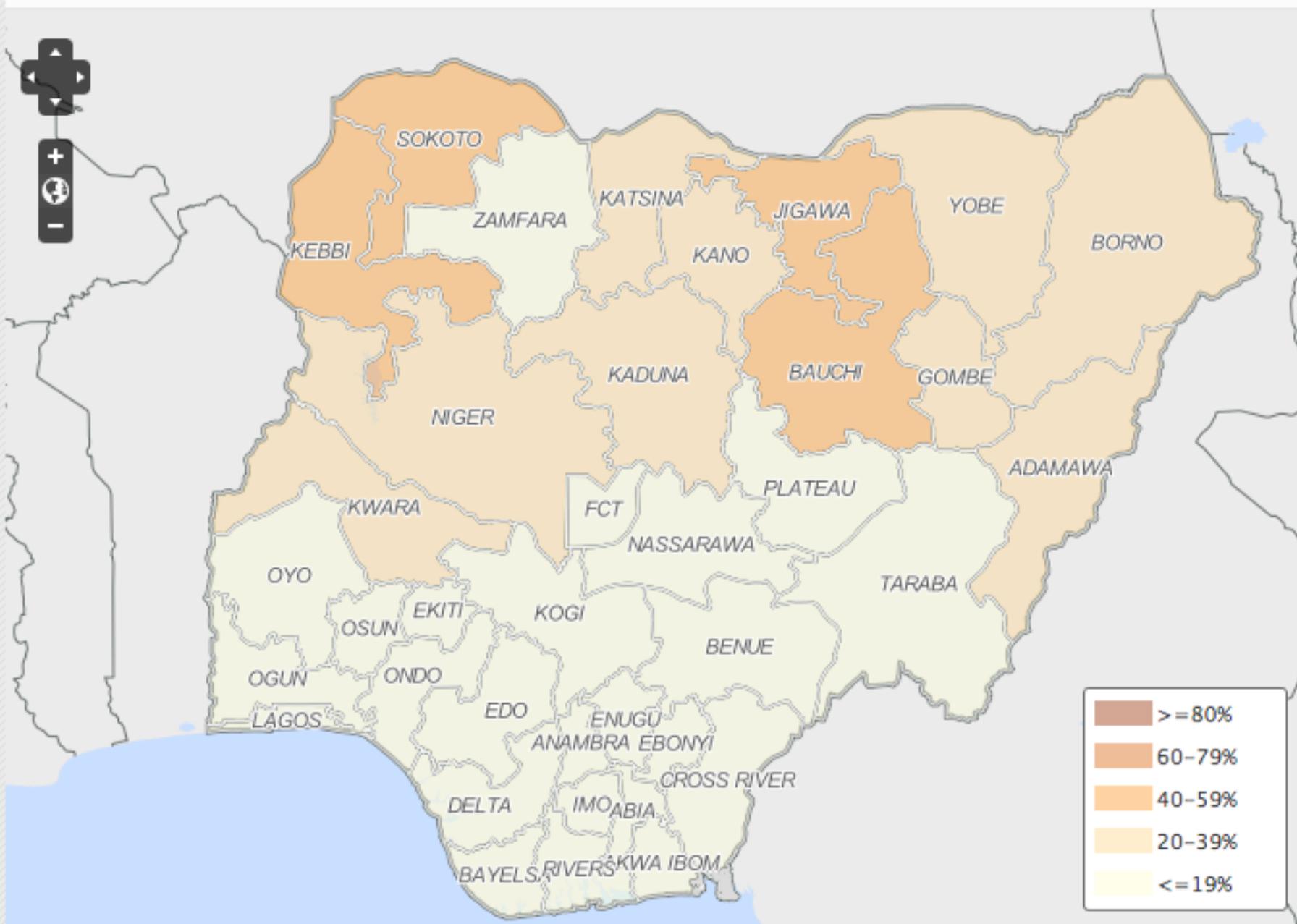
3714

3805

Data Portals/Sharing



Nigeria



Percentage of children under five who are underweight (weight-for-age)

Goal 1 » Eradicate extreme poverty and hunger

Percentage of children under five who are underweight (weight-for-age)

Percentage of children under five years of age whose weight is significantly less than the average for children of the same age/WHO Child Growth Standards (DHS, 2008)

NORTHWEST

Jigawa (7)

Kaduna (8)

NORTH-CENTRAL

Benue (8)

FCT (4)

NORTHEAST

Adamawa (9)

Bauchi (8)

SOUTHEAST

Abia (9)

Anambra (7)

SOUTH-SOUTH

Akwa Ibom (8)

Bayelsa (7)

SOUTHWEST

Ekiti (7)

Lagos (7)



LGA Summary

Facility Detail

Overview

Health

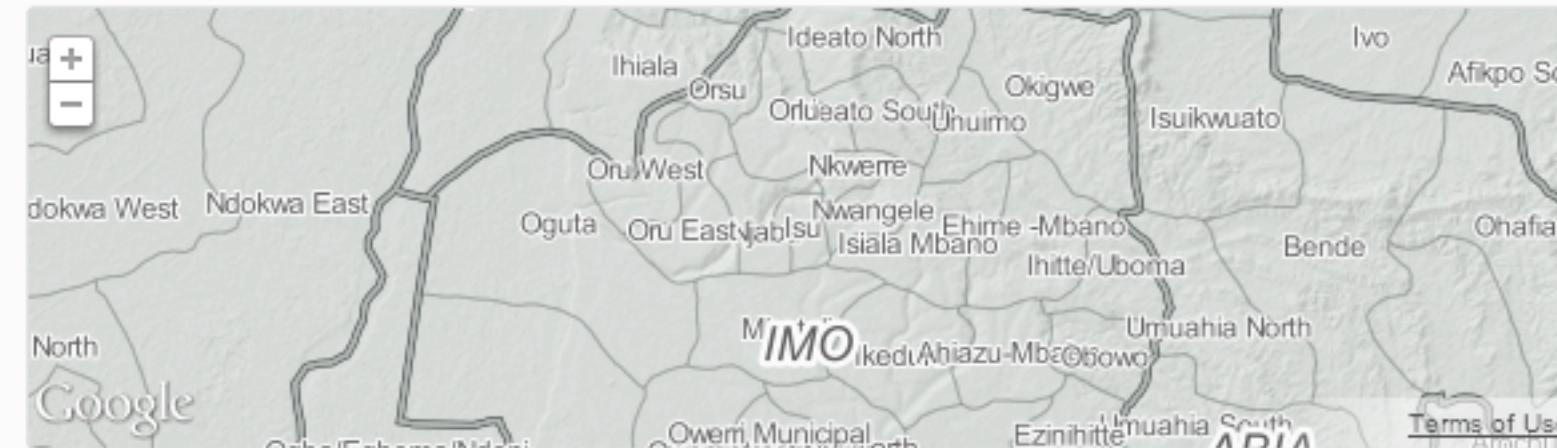
Education

Water

LGA Overview

Isu, Imo

LGA Chairman	
LGA Secretary	
Population (2006)	164468
Area (square km)	40.1
Distance from capital (km)	



LGA Overview

Below are data from the baseline facility surveys.

Health Facilities		Schools		Water Points	
Health posts and dispensaries	3	Preprimary	2	Improved water points	48
Primary health clinics	2	Preprimary and primary	26	- Overhead tanks	17
Primary health centres	11	Primary	1	- Taps	29
Comprehensive health centres & hospitals	1	Primary and junior secondary	0	- Hand pumps	2
Other health facilities	8	Junior secondary	0	Percentage of improved water points that are functional	60.4%
Facilities that perform Caesarean sections	8	Junior and senior secondary	7		
Skilled health providers per 1,000 population	0.657	Senior secondary	1		
		Primary, junior and senior secondary	0		



LGA Summary

Facility Detail

Overview

Health

Education

Water

Health Overview

Isu, Imo

[Switch to Gap Analysis](#)

Facilities

Current

Health Posts and Dispensaries	3
Primary Health Clinics	2
Primary Health Centres	11
Comprehensive Health Centres and Hospitals	1
Other Health Facilities	8
Total number of facilities	25
Percentage of facilities that offer inpatient care	84%
Percentage of facilities that offer care 24 hours a day, 7 days a week	90.9%

Staffing

Current

Total number of doctors in the LGA	14
Total number of midwives and nurse-midwives in the LGA	36
Total number of nurses in the LGA	58
Total number of CHEWs (Jr. and Sr.) in the LGA	32
Total number of laboratory technicians in the LGA	14
Number of skilled health providers per 1,000 population	0.657
Number of CHEWs per 1,000 population	0.195
Percentage of facilities where all salaried staff were paid during the last pay period	46.2%



LGA Summary

Facility Detail

Overview

Health

Education

Water

Water Overview

Isu, Imo

Water Point Type

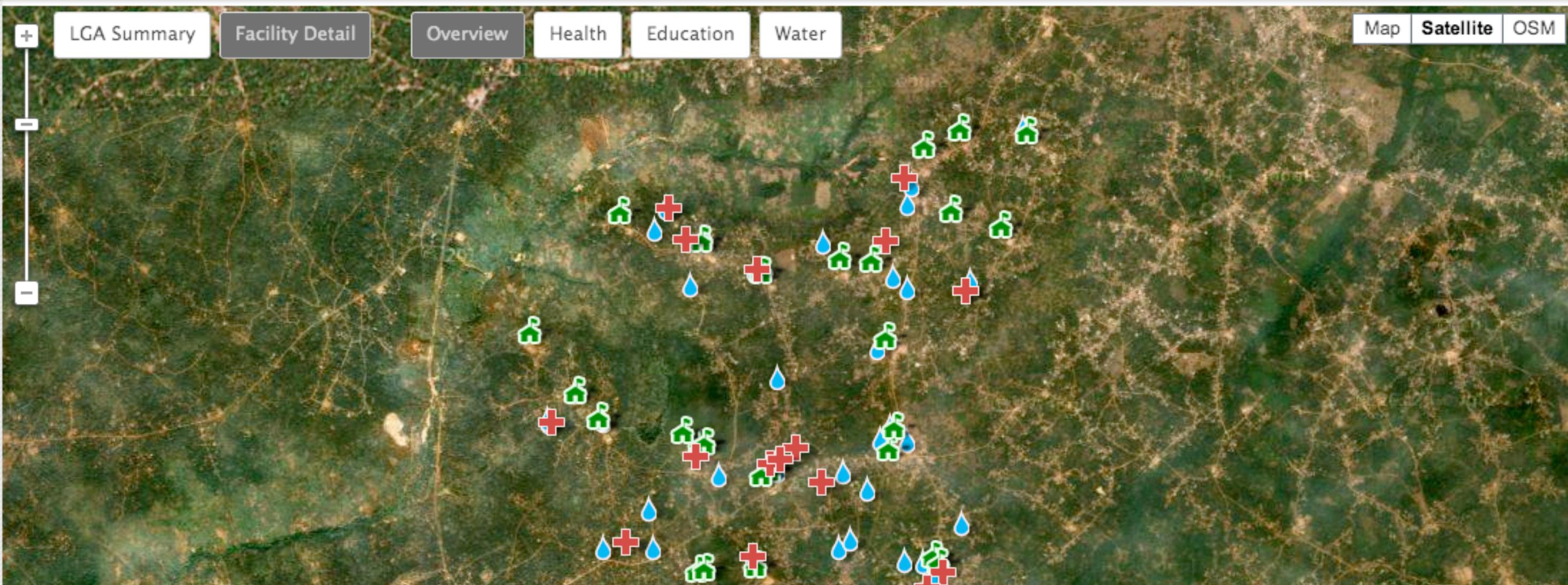
	Current
Number of improved water points	48
– Overhead tanks	17
– Taps	29
– Hand pumps	2
Number of unimproved water points	1
Total number of water points	49

Functionality

	Current
Percentage of improved water points that are functional	60.4%
Percentage of taps that are functional	79.3%
Percentage of hand pumps that are functional	0%

Lift Mechanism Analysis

	Current
Diesel	
Number	2
Percentage functional	100%
Electric	
Number	9
Percentage functional	77.8%



Facility Detail: Isu Overview

Table Only

Split

Map Only

Facilities

 [Water \(49\) »](#) [Education \(38\) »](#) [Health \(25\) »](#)

Isu, Imo

LGA Chairman	--
LGA Secretary	--
Population (2006)	164468
Area (square km)	40.1
Distance from capital (km)	--

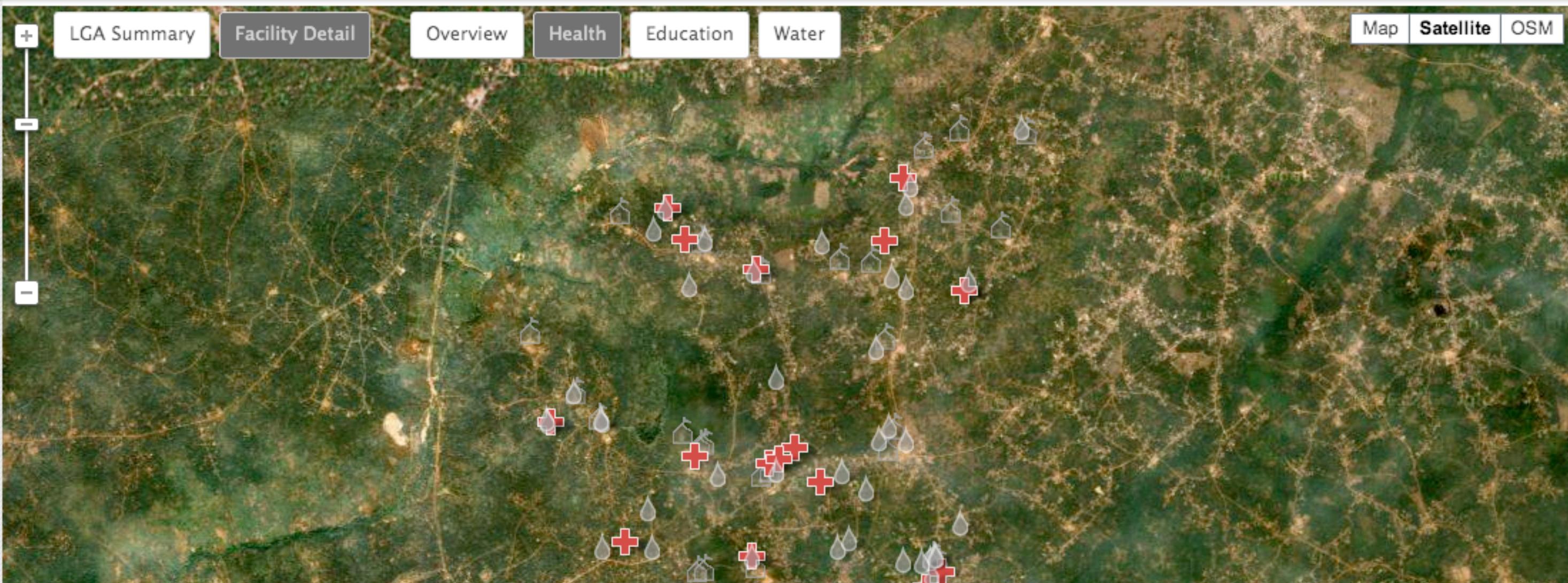


HOME

Imo / Isu / Facility Detail / Health

Isu

GO



Facility Detail: Isu Health

Table Only

Split

Map Only

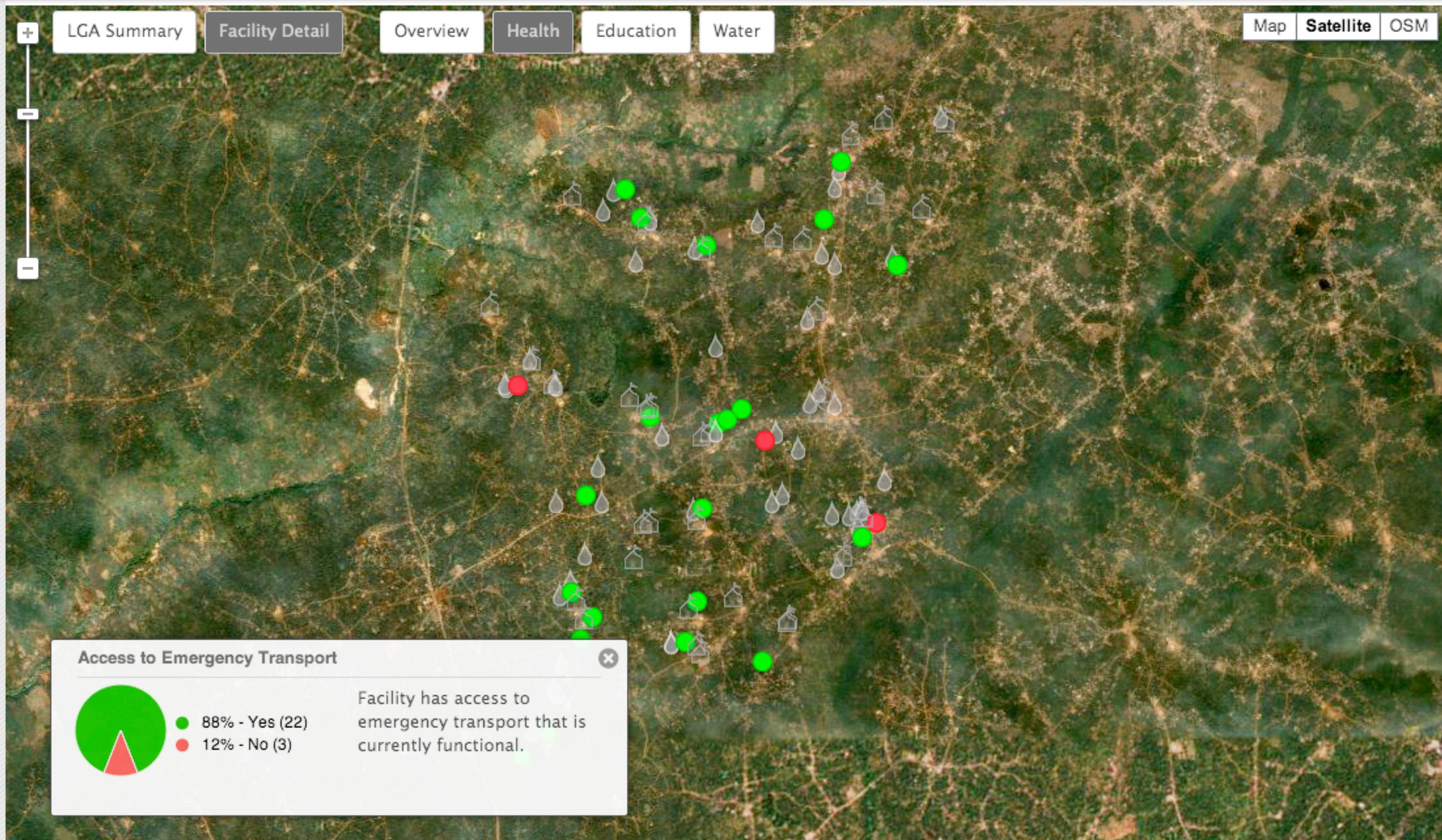
Grouping:		Snapshot	Search:									
Name	Type	Delivery Services 24/7	24/7 Curative Care	Drug Stock Outs	Access to Emergency Transport	Adequate Staffing	Skilled birth attendant	CHOs, CHEWs and JCHEWs	Power	Comprehensive EmOC		
Amandugba Health Centre	Pr	YES	YES	YES	NO	—	YES	5	NO	NO		
Chioma Maternity	M	YES	YES	—	NO	—	YES	0	—	NO		
Destiny Maternity Nwaoriemkpu	M	YES	YES	—	YES	—	YES	0	—	NO		

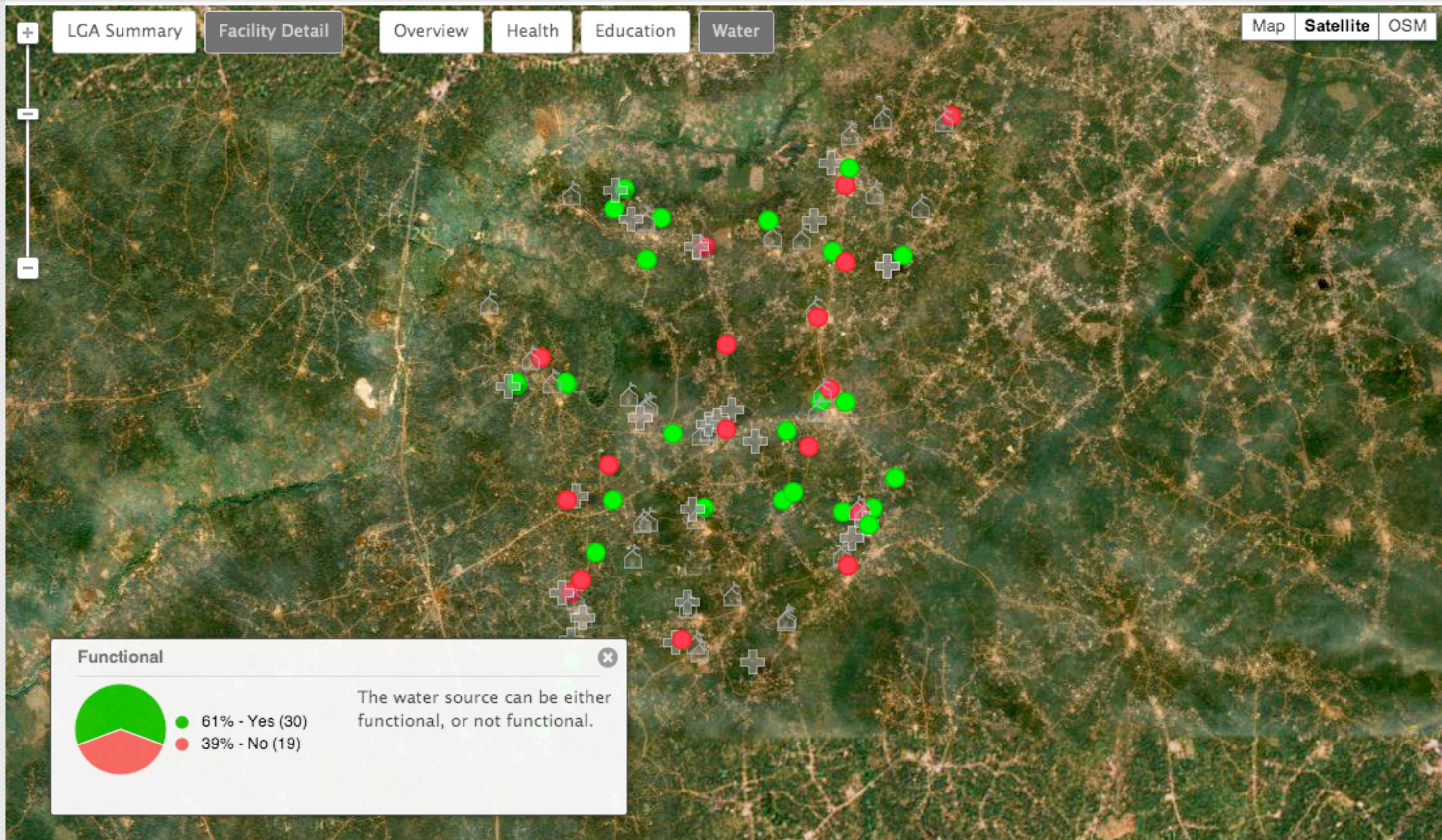


Grouping:

Snapshot Search:

Name	Type	Delivery Services 24/7	24/7 Curative Care	Drug Stock Outs	Access to Emergency Transport	Adequate Staffing	Skilled birth attendant	CHOs, CHEWs and JCHEWs	Power	Comprehensive EmOC
Amandugba Health Centre	Pr	YES	YES	YES	NO	—	YES	5	NO	NO
Chioma Maternity	M	YES	YES	—	NO	—	YES	0	—	NO
Destiny Maternity Nwaoriemkpu Ekwe.	M	YES	YES	—	YES	—	YES	0	—	NO
Ebenator Ekwe Health center	Pr	YES	YES	YES	NO	—	YES	4	NO	NO
Friendship hospital	Pr	NO	NO	—	YES	—	YES	0	—	YES
Friendship Hospital And Maternity Nwaoriemkpu Ekwe.	C	YES	YES	—	YES	—	YES	0	—	YES
HEALTH CRNTRR	Pr	YES	YES	YES	YES	—	YES	3	NO	NO
Mission Hospital Uburuekwe	C	YES	YES	—	YES	—	YES	0	—	YES
Mission Maternity.	M	NO	NO	—	YES	—	YES	0	—	NO
Model Health centre	Pr	YES	YES	YES	YES	—	YES	2	NO	NO
Model health centre	Pr	YES	YES	—	YES	—	YES	2	NO	NO
Nnerim Health Centre	Pr	NO	YES	—	YES	—	YES	4	NO	NO
Obinwa Hospital & Maternity	PC	YES	YES	—	YES	—	YES	0	—	YES
Oboro Amurie Health Centre	Pr	YES	YES	YES	YES	—	YES	3	NO	NO
PHC ELEAMA IBEAMO EKWE	Pr	YES	YES	YES	YES	—	YES	2	NO	NO
Primary Health Care Centre Uloano Ndugba	Pr	YES	YES	YES	YES	—	YES	3	NO	NO
Primary Health Post	?	NO	—	—	YES	—	YES	0	NO	NO
Savation hospital and maternity	C	YES	YES	—	YES	—	YES	1	—	YES
St Patricks Hospital And Maternity Umuduru Ekwe.	C	YES	YES	—	YES	—	YES	0	—	NO



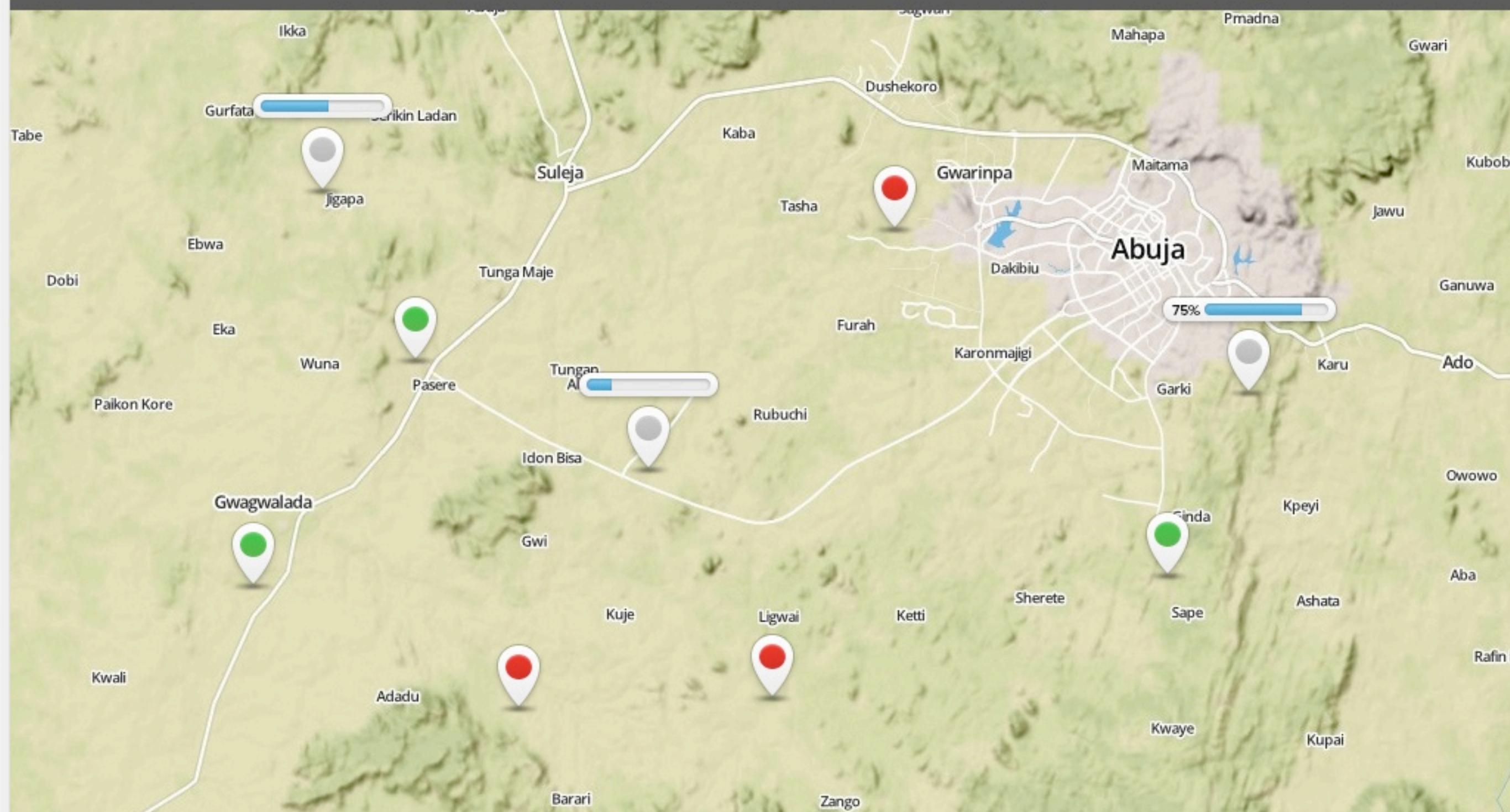




www.nigeriawaterpoints.ng

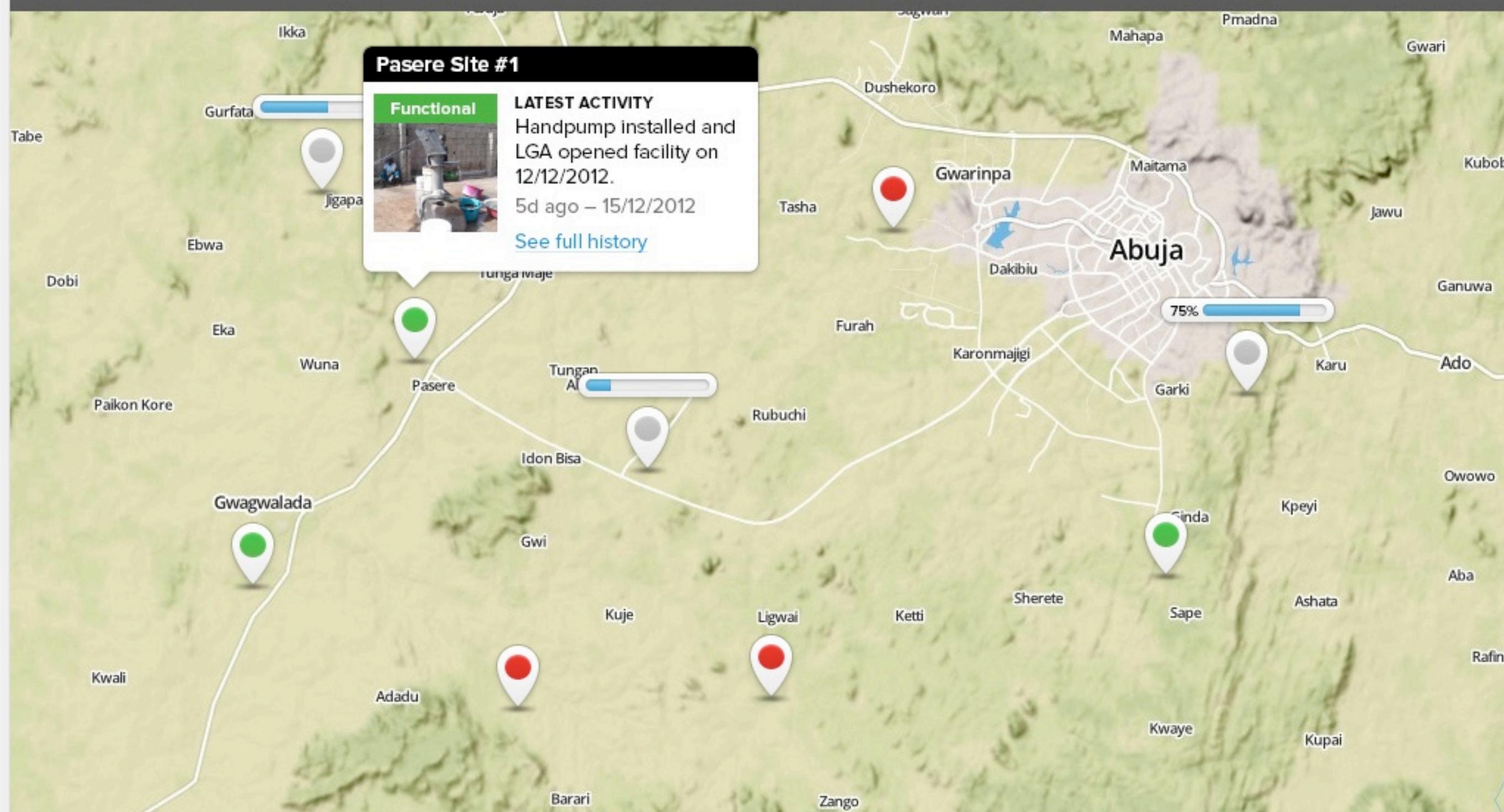


NIGERIA: WATER POINTS





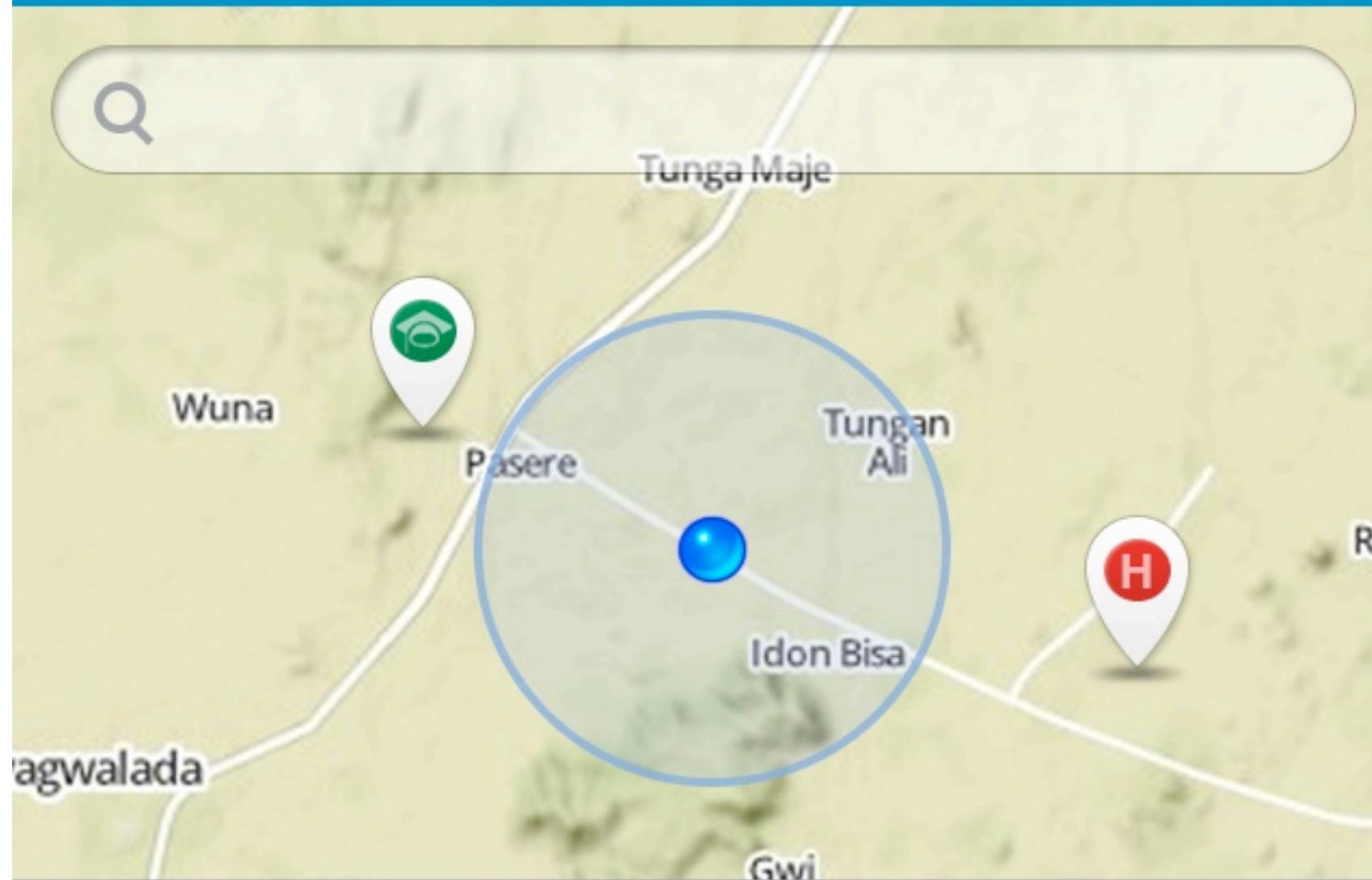
NIGERIA: WATER POINTS





Facilities

Add



**Pasere San Dimas
Junior Secondary**



**Idon Bisa PHC
Primary Health Center**



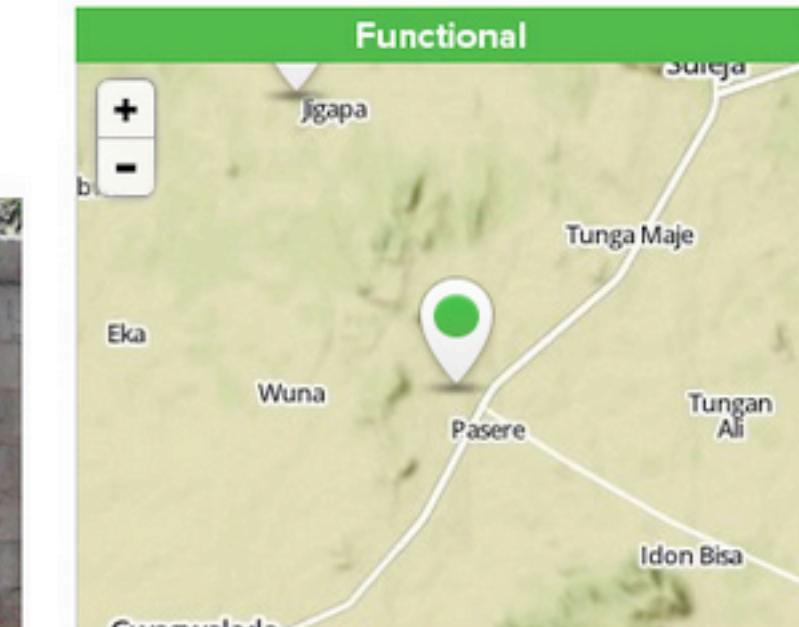


PASERE SITE No. 1

15/12/2012

FACILITY OPEN FOR SERVICE

Handpump Installed and LGA opened facility on 12/12/2012.

[View larger map](#)**Type:** Handpump**GPS Coordinates:** 9°0'7" N 7°9'23" E**Nearby landmarks:** Persere Market**Population served:** 500+**Functional date:** 12/12/2012**Uptime:** 85%**Contractor:** Drilling Wks [View projects \(3\)](#)**Construction days:** 43 days



15/11/2012

DRILLING UNDERWAY

Contractor ran into problems and has relocated. Expected to complete by 20/11/2012.



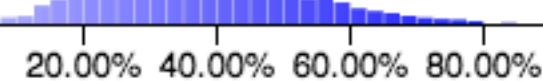
1/11/2012

DRILLING UNDERWAY



Obama

Range: 3.45 - 93.36

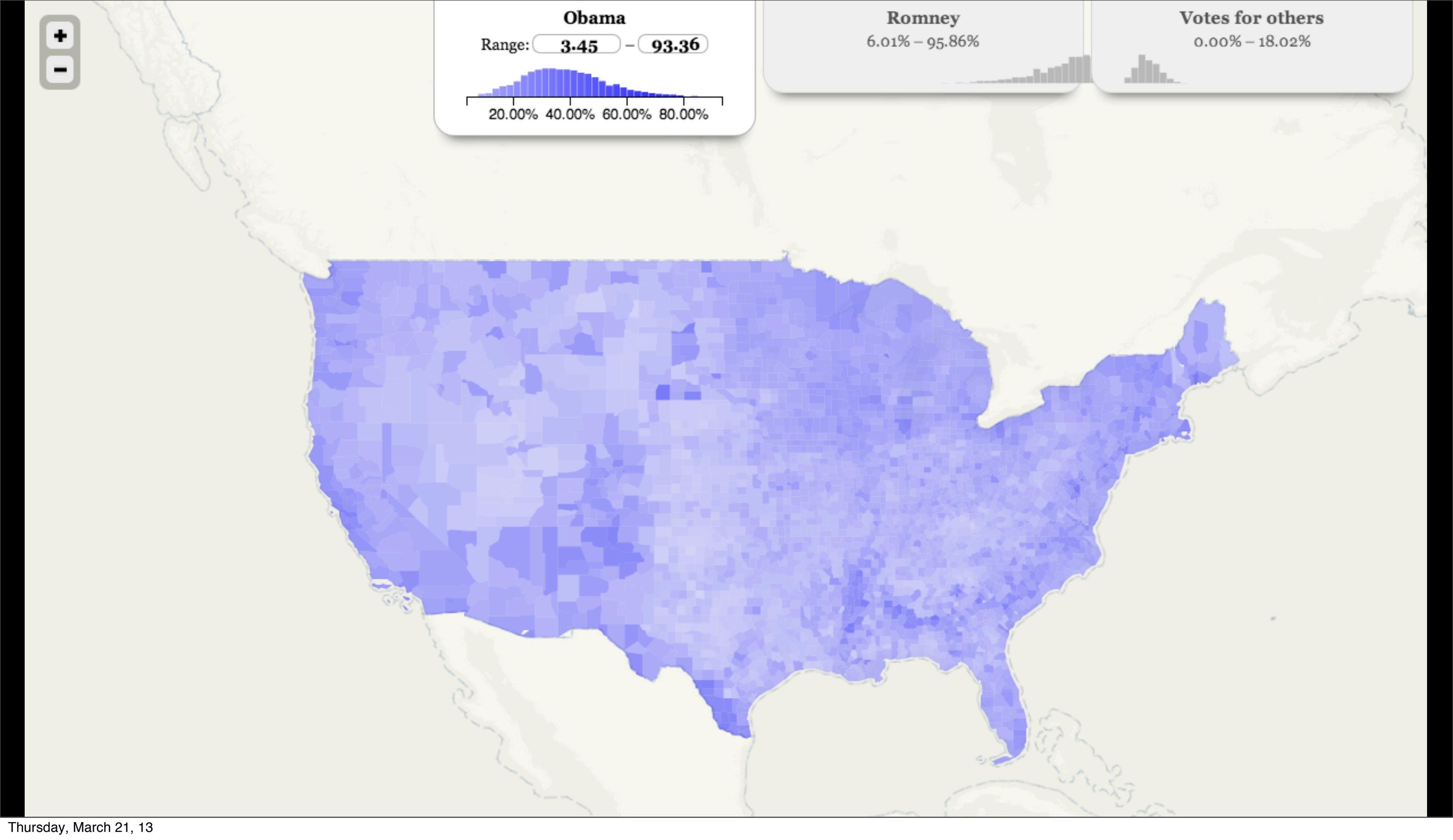


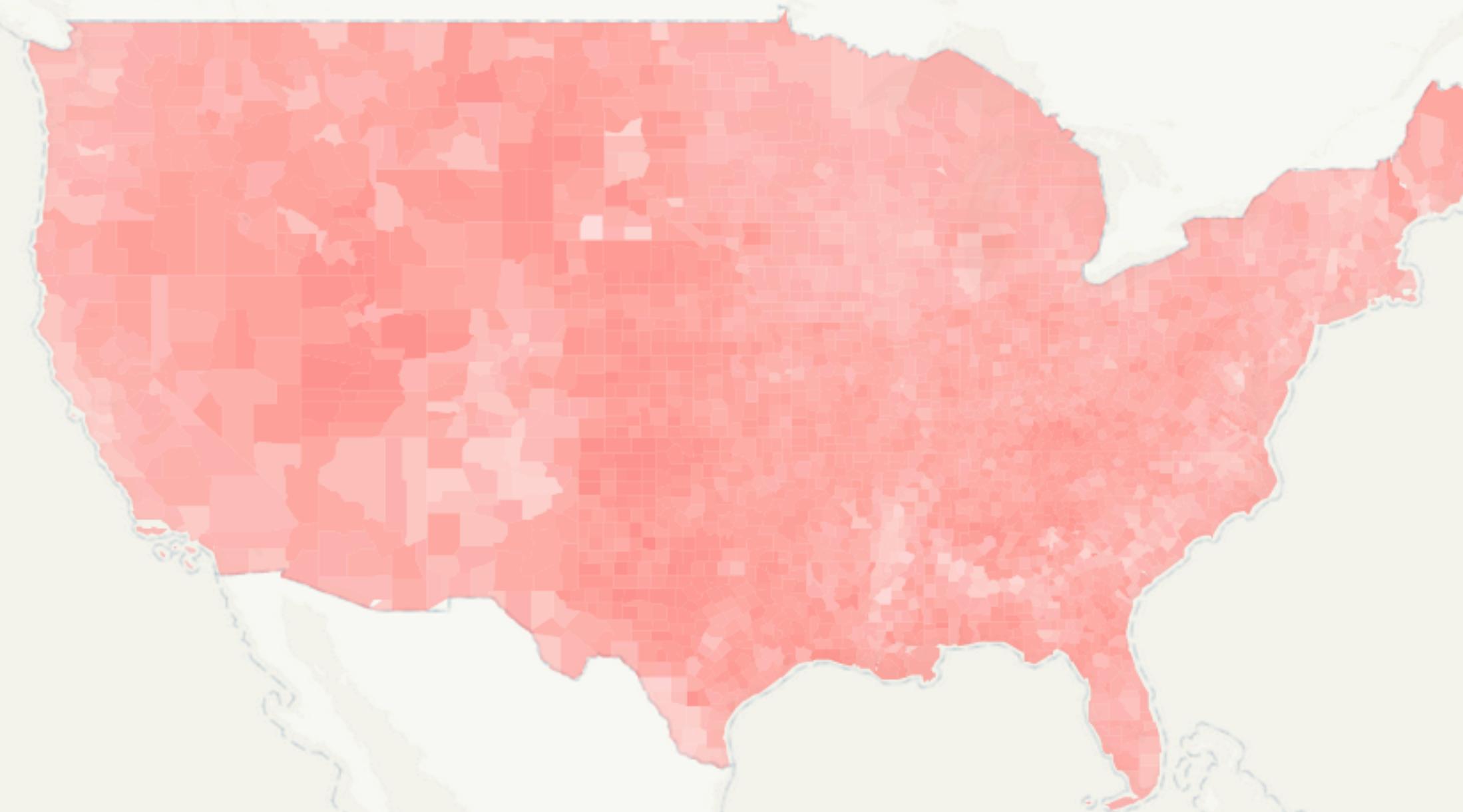
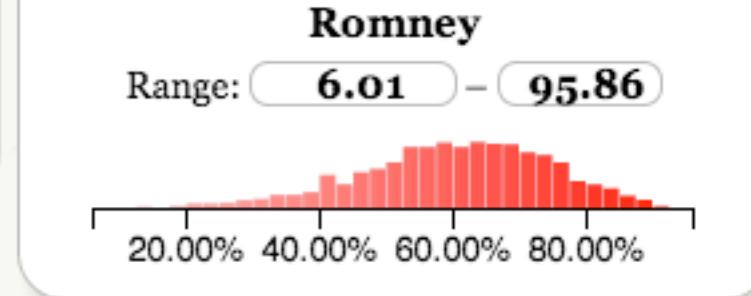
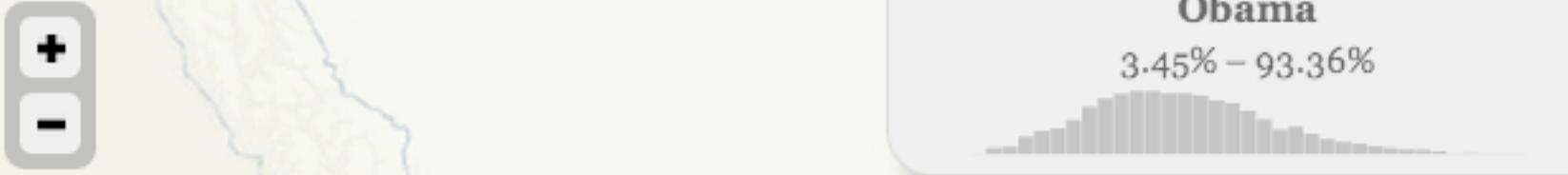
Romney

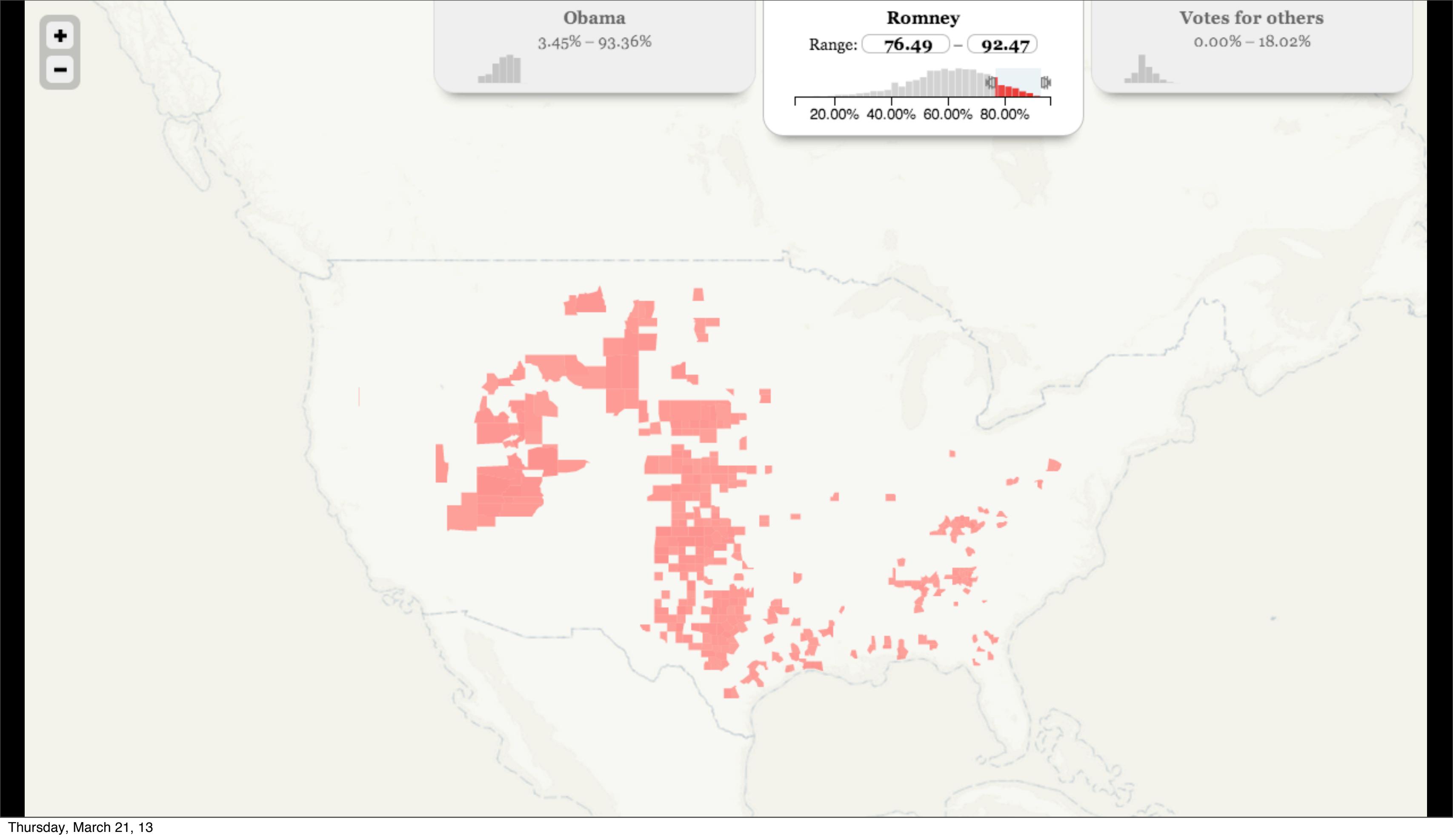
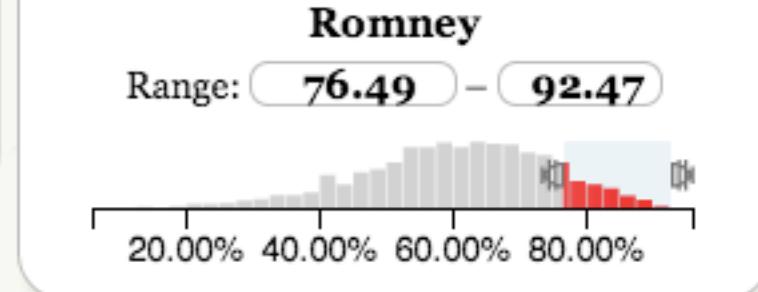
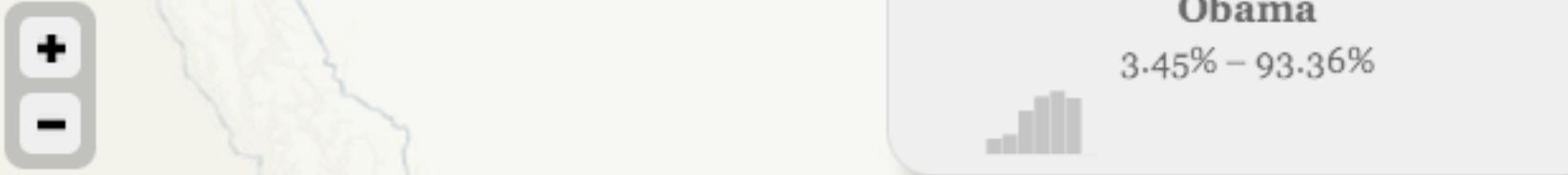
6.01% - 95.86%

Votes for others

0.00% - 18.02%









Obama

3.45% – 93.36%



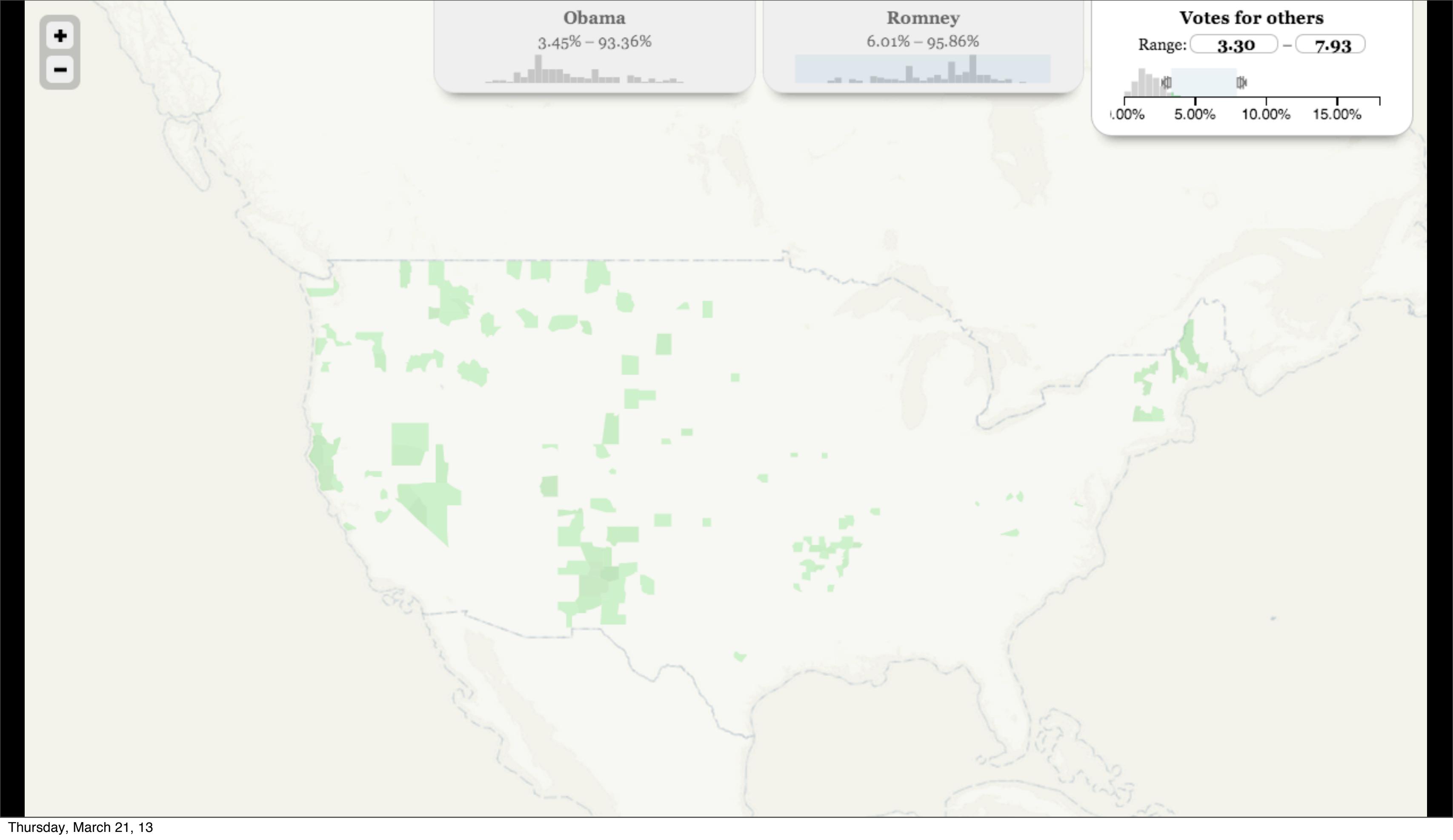
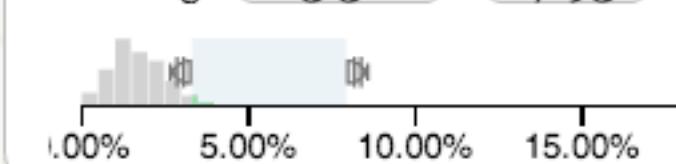
Romney

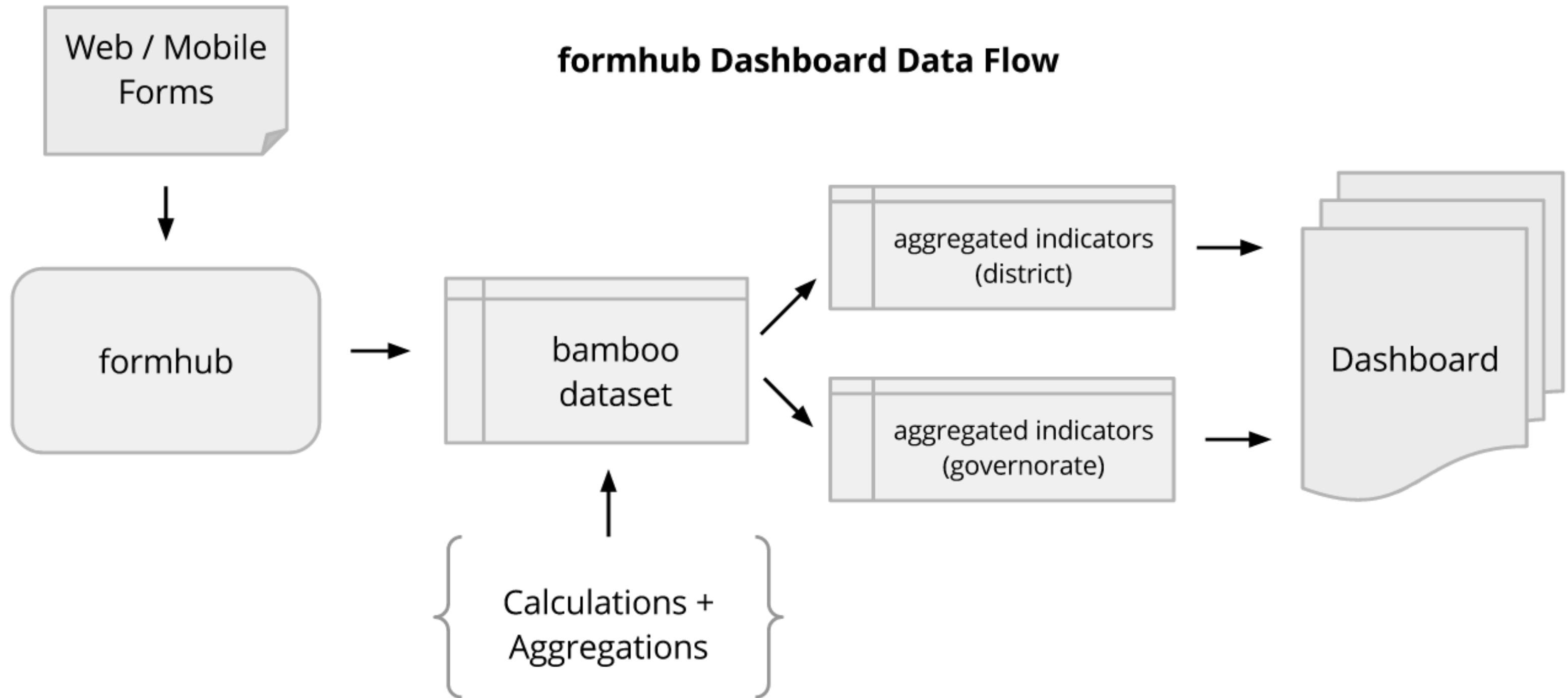
6.01% – 95.86%



Votes for others

Range: 3.30 – 7.93





Egypt Decides 2012

1,949 Poll Observations

As Suways

13% (4 out of 30) polling irregularities.

10% (3 out of 30) ballots not counted.

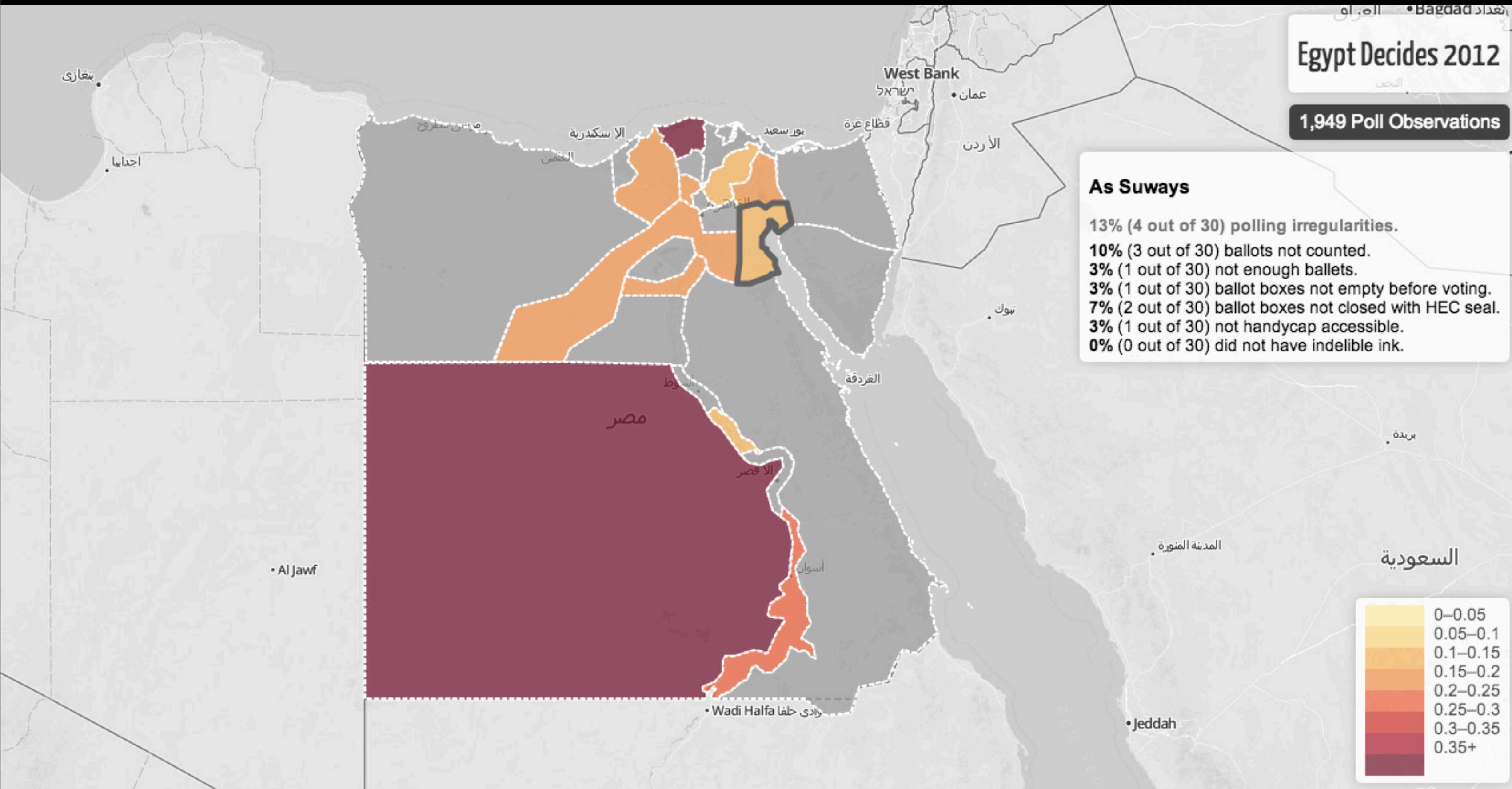
3% (1 out of 30) not enough ballots.

3% (1 out of 30) ballot boxes not empty before voting.

7% (2 out of 30) ballot boxes not closed with HEC seal.

3% (1 out of 30) not handicap accessible.

0% (0 out of 30) did not have indelible ink.



```

var map = L.map('map').setView([26.5, 31.5], 6);
wax.tilejson('http://a.tiles.mapbox.com/v3/modilabs.map-p543gvbh.jsonp', function(tilejson) {
  map.addLayer(new wax.leaf.connector(tilejson));
});

var refresh = function() {
  queue()
    .defer(d3.json, "eqypt.json") < geojson (shape file)
    .defer(d3.csv, "http://bamboo.io/datasets/0a56028dd2a941c891ade63d61a5b144.csv") < bamboo feed
    // load parent dataset
    .defer(d3.json, "http://bamboo.io/datasets/f8cec970b1f6480491b61df487ff3b32/summary?select=%22governorate%22:1")
    // .defer(d3.csv, "http://bamboo.io/datasets/12f4ad4ae051459b8d9ab9bac4e6e227.csv")
    // .defer(d3.csv, "http://bamboo.io/datasets/bcf1cd416a464bc893ac0e57c75bfade.csv")
    .await(ready);
};

refresh();

function getColor(d) {
  return d==null ? '#999' :
    d > 0.35 ? '#800026' :
    d > 0.3 ? '#BD0026' :
    d > 0.25 ? '#E31A1C' :
    d > 0.2 ? '#FC4E2A' :
    d > 0.15 ? '#FD8D3C' :
    d > 0.1 ? '#FEB24C' :
    d > 0.05 ? '#FED976' :
    '#FFEDA0';
}

var corrections = {
//   "Suhaj": "Souhag", "Al Isma`iliyah": "Al Ismailia", "Bani Suwayf": "Bani Swif", "Ash Sharqiyah": "Al Sharkia",
//   "Al Minufiyah": "Al Monofia", "As Suways": "Suez", "Al Jizah": "Giza", "Aswan": "Aswan", "Al Buhayrah": "Al Behira",
  "Al Buhayrah": "3", "Al Isma`iliyah": "7", "Al Minufiyah": "9", "Al Sharqiyah": "15", "Aswan": "16",
  "Bani Suwayf": "18", "Al Jizah": "8", "Suhaj": "26", "As Suways": "14"
};

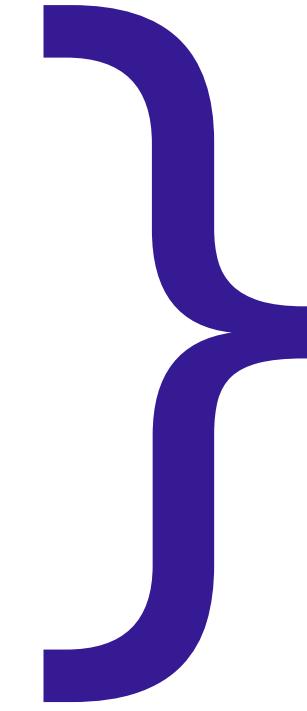
function styleGen(feature) {
  //var data = dataById[corrections[feature.properties.NAME_1]];
  var data = dataById[feature.properties.ID_1];
  var ratio = data ? data.polling_irregularities : null;
  var defaultStyle = { weight: 2, opacity: 1, color: 'white',
    dashArray: '3', fillOpacity: 0.7 };
  return __.defaults({ fillColor: getColor(ratio)}, defaultStyle);
}

var geojson;
var dataById = {};

var lg = L.layerGroup();
function ready(error, eg, polldata, count_summary) {
  //console.log(polldata);
  map.removeLayer(lg);
  lg = L.layerGroup();
  geojson = new topojson.object(eg, eg.objects.egy_adm1);
}

```

```
    "r_polling_irregularity": 0.14173228346456693,  
    "ballot_boxes_not_closed_with_hec_seal": 0.07874015748031496,  
    "polling_centers_not_have_indelible_ink_denominator": 254,  
    "r_polling_irregularity_denominator": 254,  
    "polling_center_not_handycap_accessible_numerator": 34,  
    "polling_irregularities": 0.14173228346456693,  
    "not_enough_ballots_denominator": 254,  
    "r_polling_irregularity_numerator": 36,  
    "ballot_boxes_not_closed_with_hec_seal_numerator": 20,  
    "polling_center_not_handycap_accessible_denominator": 254,  
    "polling_centers_not_have_indelible_ink": 0,  
    "ballots_not_counted_numerator": 21,  
    "polling_irregularities_denominator": 254,  
    "ballot_boxes_not_empty_before_voting": 0.003937007874015748,  
    "ballots_not_counted_denominator": 254,  
    "polling_centers_not_have_indelible_ink_numerator": 0,  
    "not_enough_ballots": 0.007874015748031496,  
    "not_enough_ballots_numerator": 2,  
    "ballots_not_counted": 0.08267716535433071,  
    "governorate": 26,  
    "ballot_boxes_not_empty_before_voting_denominator": 254,  
    "ballot_boxes_not_empty_before_voting_numerator": 1,  
    "ballot_boxes_not_closed_with_hec_seal_denominator": 254,  
    "polling_irregularities_numerator": 36,  
    "polling_center_not_handycap_accessible": 0.13385826771653545  
},  
{  
    "r_polling_irregularity": 0.5,  
    "ballot_boxes_not_closed_with_hec_seal": 1,  
    "polling_centers_not_have_indelible_ink_denominator": 2,  
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    "polling_irregularities": 0.5,  
    "not_enough_ballots_denominator": 2,  
    "r_polling_irregularity_numerator": 1,  
    "ballot_boxes_not_closed_with_hec_seal_numerator": 2,  
    "polling_center_not_handycap_accessible_denominator": 2,  
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    "ballots_not_counted_numerator": 2,  
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    "ballot_boxes_not_empty_before_voting": 1,  
    "not_enough_ballots": 0.5,  
    "not_enough_ballots_numerator": 1,  
    "ballots_not_counted": 0.5,  
    "governorate": 1,  
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    "ballot_boxes_not_empty_before_voting_denominator": 2,  
    "ballot_boxes_not_empty_before_voting_numerator": 1,  
    "ballot_boxes_not_closed_with_hec_seal": 1,  
    "polling_irregularities": 0.5,  
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    "polling_centers_not_have_indelible_ink": 0,  
    "ballots_not_counted": 0.5,  
    "governorate": 1  
}
```



indicators aggregated
by region

“Publish a Site”

Dashboard programmed in HTML5+JS

+ Static Data

.csv / .json - static

.bamboo (.csv) - latest calculated indicators

.geojson - shapes

.mbtiles - base maps that can be run offline

Training



Support & Training

Hosting Support

Data Analysis (R)

Programming

Higher Level Engagement with
Modi Lab Researchers/Grad
Students on usage of data

Driving Principles

Avoid Paying

Software Licenses

Spend On

Customization

Support

Services

Invest in

Training/Capacity Building

Open Source Tools/Platforms